

ORGANISATIONAL AND INSTITUTIONAL ENVIRONMENTAL EFFECTS UPON MERCHANT  
MARINE OFFICERS' OCCUPATIONAL COMMITMENT

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### Declaration

I hereby declare that, whilst registered as a candidate for the degree of Doctor of Philosophy with the Council for National Academic Awards I have not been a registered candidate for another award of the Council nor of a university.

The following activities, comprising the programme of related studies, have been undertaken:

- (i) A schedule of reading guided by the supervisors
- (ii) Attendance at post-graduate lectures on organisation and management
- (iii) A course on Systems and Data analysis at the Haifa Institute of Labour Productivity.

A handwritten signature in dark ink, appearing to read 'N. Sonnenberg', followed by a horizontal line.

N. Sonnenberg.

## ABSTRACT

Nadav Sonnenberg

### ORGANISATIONAL AND INSTITUTIONAL ENVIRONMENTAL EFFECTS UPON MERCHANT MARINE OFFICERS' OCCUPATIONAL COMMITMENT

The thesis is concerned to examine the area of occupational commitment of merchant marine officers. From a general description of the occupation and its relationship to the wider environment the study focusses specifically upon the Israeli case. A review of recent literature on commitment and labour turnover demonstrates the inter-disciplinary approaches taken by previous researchers and, importantly, suggests that commitment and turnover are two quite ~~complementary~~ constructs. The emphasis in this study is upon the antecedents and causes of occupational commitment - an emphasis that has been relatively neglected in earlier work. The theoretical model established takes individual intentions as the dependent variable whilst institutional, organisational, situational and environmental factors comprise the intervening variables.

The theoretical model is tested with the aid of a large data set derived from questionnaires administered to a sample of Israeli merchant marine officers. Sophisticated statistical routines, including partial correlations, factor analysis and regression tests, are employed on the data.

Generally, the theoretical model is found to have empirical support insofar as the role of the intervening variables is shown to be crucial in understanding and predicting individual behaviour with respect to the propensity to leave the occupation.

The study makes some important policy suggestions in respect of manpower policies and decisions together with managerial practice. It is argued that changes should be made to educational and training programmes in order that greater stability might be introduced to the shipping industry.



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# EFFECTS OF THE ORGANIZATIONAL AND INSTITUTIONAL ENVIRONMENT ON OCCUPATIONAL COMMITMENT BY MERCHANT MARINE OFFICERS

## INTRODUCTION

During the last two decades the Merchant Marine Industry, world wide, has absorbed and implemented new and highly modern technologies. It has been found that the higher the level of modernisation of a given society, the higher are the manpower turnover rates and the lower are the rates and qualifications of newcomers into the shipping occupation. It has, therefore, also been realized that reducing turnover rates and strengthening occupational commitment should ease the stressing problems of constantly increasing manpower shortages, especially among the Merchant Marine Officers' core.

Occupational commitment among marine officers is the subject matter of the present work. We shall begin the first chapter with a description of the unique features of these officers' occupation and the effects upon it that are caused by the organizational and institutional environment, and the results revealed by commitment behaviour or the lack of it among the merchant marine officers. This description shall serve as a presentation of the empirical problem, which deserves to be put into a theoretical perspective. This perspective shall be attained in the first, second and third chapters arranged in the form of a musical 'minuet' structure. In the first chapter, the review of literature concentrates mainly around the development of the theories relevant to our theme, the theoretical constructs and perspectives by which authors evaluate and assess occupational commitment as well as the quitting and turnover phenomena, as part of withdrawal behaviour among employees.

Commitment and turnover have been studied as two distinct constructs,

although the approaches taken for the study of these concepts stem from, and are based on, mutual, social and psychological theoretical models. To date, the study of commitment and turnover is conducted by some researchers as two pillars of one entity. Instead of elaborating on this vein of investigation, authors tend to be interested in the results and the consequences of the social phenomenon, and its effects upon the individual employee and the employing organization. The present work is aimed at studying the influences of antecedents and causes upon occupational commitment behaviour, for it is believed that some theoretical issues and central variables were neglected in past research as is concluded from the literature review.

There is quite a logical justification and reasoning in unifying various theoretical approaches into one, inclusive theoretical model in which the different partial models are related to, and ordered into, a sequential process of events. In addition, there is also a unification of the two empirical variables which stand for commitment and for quitting behaviours into one construct. Applying this vein of research sheds light on the influence of the organizational and institutional situational environment which, until now, has been neglected and not given proper consideration. Although labour market and job alternatives and opportunities are known and accepted as having an influence upon employees' commitment or quitting behaviour, the actual study of such factors is, to date, minimal. Their proper place in the theoretical model is therefore proposed to be altered. The first chapter will be concluded by trying to point out how commitment and turnover are related to the seafaring environmental context. This is intended to lead to the second chapter, also engaged in the review of literature, although this one deals with the specific seafaring institution, chosen later as the field for empirical research.

The second chapter is therefore divided into two sections. The first concentrates on the description of historical, social and institutional development of the seafaring officers' occupation in a young State, Israel. Although it has quite distinct stages of development, this part of the chapter hints that the same stages are to be found in various communities: nautical, as well as non-nautical on the one hand and, on the other, in countries and communities which stand in different stages of modernization and technological levels and have to furnish or build their merchant fleets. The second section of the chapter aims at the clarification and the analysis of the present environmental situation within which seafaring exists in Israeli society. This is done by trying to classify the various shipping companies as each having manpower managerial policies which stem from the style of their special and characteristic business philosophy. This classification divides the shipping companies into three categories; that of the 'National Shipping Company', that which is 'risk averse' and the third, the 'risk prone'. These three types are considered to operate and be managed in distinct modes of activity and, therefore, define the situational environment within which the Merchant Marine Officers work and live.

The officers' rank and ship department, act as the empirical job situational variables. Analysis of both institutional and job situational environment is, therefore, to show that these are the intervening variables in the process of commitment and turnover. It is hoped that better understanding of these variables and their effects upon merchant marine officers' behaviour will reduce the turnover rates and strengthen the occupational commitment of the population investigated. Consequently, the review of literature is completed in the third chapter, which deals with the conceptual, theoretical framework that is suggested in the study. It begins with the definition of the theoretical and empirical variables included in

the process. It concludes with the suggested restructuring of the theoretical model. This should enable the construction and definition of the propositions and the hypotheses with which the empirical study is engaged and which is described in the following chapters. A major issue in the study is the employee's intentional and attitudinal behaviour variables, which were traced in the reviewed literature. This bears upon the decision whether the actual behaviour should be the dependent variable in the study, or, rather whether it should be the intentional behaviour. Although the wish was to include in the study a recommended element of longitudinal study which demands that data should be gathered before and after the intended behaviour, it has been found that, for economic reasons, the research should aim at 'intentions' as the dependent variables. This matter is mentioned and considered in the third chapter while constructing the 'theoretical' model.

Chapter four discusses the research tool used, the sampling methodology and the reliability and validity of its elements. It is followed by a discussion of the pros and cons, known in the literature of the social sciences, as to the analytical methods chosen. These are the partial correlation, factor analysis and regression tests. The fourth chapter concludes with the description of the sampled population, its characteristics and its social-economic and attitudinal features.

Chapters five and six deal with the data collected during the period beginning in 1975/6 up to 1982. In the fifth chapter a discussion centres on the influences which are found to exist when considering the intervening variables: namely the shipping company, the ship department and the officers' rank level. Together, these are the theoretical 'institutional organizational, situational, environmental intervening variables' incorporated



in the theoretical model constructed and described in the third chapter.

As a result of this description it is possible, in the sixth chapter, to consider the empirical support obtained for this model from which propositions about the general structure of the merchant marine officers' behaviour have been deduced. This can, therefore, lead to the final conclusions about the advantages and disadvantages of the present research work and its contribution to knowledge and suggested explanations as to the behavioural phenomena studied; that of the positive commitment (or its negative form), whether in actual behaviour or the intention, of quitting among the population investigated.

Chapter seven summarizes the whole research work within the perspective of its contributions to the advancement of theoretical and empirical levels. First, it is found that the work environment, institutional organizational and situational factors, as well as opportunities in the labour market, and reference groups outside the studied seafaring occupation, must be considered and given greater importance of influence upon employee's behaviour. This, in turn, should enable the pragmatic and operational set of suggestions directed for the use of the shipping industry world-wide. It should also shed light on the present debates and uncertainties included in the process of merchant marine manpower policy, decisions and managerial practices. It also impinges upon the experimental organizational changes concerning officers' participation in the ship management and business handling while assuming that 'continuity' of crews is essential to the success of changes prescribed by some well known shipping scientists. The main group of suggestions surrounds the educational and the training processes which, if properly planned and implemented, should stress the attitudinal and evaluative rather than organizational prescribed changes.

## CHAPTER ONE

### TURNOVER AND COMMITMENT : REVIEW OF LITERATURE

#### 1.1 Introduction

In 1975 the Shipping and Ports Administration (S. & P.A., then Department), Israel Ministry of Transport, embarked on a study to forecast future needs for Merchant Marine Officers. In order to achieve this target, an analysis of the relationship between supply and demand for officers was held. It was very soon realised that any forecast of this kind must rely and be based on the knowledge of two general factors. One is the information about officers' rates of sea-time (annual accumulated period of days on board ship) from which inferences could be made as to how many marine officers are needed per job per year. The second factor needed for such an inquiry was concerned with annual quitting rates among officers from their sea-faring occupation. The accumulation of data needed for this purpose, soon revealed that this aim and these two factors deserve a much deeper study and analysis. Although the raw data had already been collected, it was realised that fluctuations of trends must be well understood if one wishes to anchor a forecast on solid grounds. This led to the study of the relationship between commitment and withdrawal behaviour among the Israeli Merchant Marine Officers which, in turn, triggered the curiosity in this subject matter theoretically, analytically and empirically. These two general factors (commitment and turnover rates) brought an understanding that matching the data about officers' behaviour to the expected numbers of jobs on board the merchant ships was actually the tip of an iceberg of problems. These do compose an interdisciplinary reality and, if one seeks fully to understand it, there can be no escape from an interdisciplinary research approach which should include subject matters such as the organisational situational environment within which the officers live, act, work and behave. Without such an approach, no explanation can be

OFFICERS BY RANK LEVEL (Deck, Engine, in all bars, & Radio, Elect, & Frig., in 2nd Off.)												OFFICERS BY SHIP DEPARTMENT									TOTAL OFFICERS ALL RANKS			YEAR
THIRD & FOURTH OFFICERS			2ND OFFICER			1ST OFFICER			MASTERS & CHIEF ENGINEER			ENGINE OFFICERS			RADIO OFFICER			DECK OFFICERS						
% of quits	No. of quits	Total Active	% of quits	No. of quits	Total Active	% of quits	No. of quits	Total Active	% of quits	No. of quits	Total Active	% of quits	No. of quits	Total Active	% of quits	No. of quits	Total Active	% of quits	No. of quits	Total Active	% of quits	No. of quits	Total Active	
5.3	8	150	6.3	12	190	8.6	6	70	12.0	12	100	10.5	28	266	4.0	2	50	4.1	8	194	7.5	38	510	1960
7.0	12	185	9.8	21	215	1.0	1	97	14.8	17	115	11.5	39	339			60	6.1	13	213	8.5	52	612	1961
10.2	18	176	8.3	22	266	3.2	3	95	12.1	17	140	8.7	33	381	12.0	9	75	8.1	18	221	8.9	60	677	1962
7.0	15	213	8.2	24	293	4.2	4	96	11.8	18	152	11.3	47	417	3.3	3	90	4.5	11	247	8.1	61	754	1963
9.4	22	234	18.7	59	315	3.8	4	105	12.0	20	167	16.7	75	449	12.2	12	98	6.6	18	274	12.8	105	821	1964
12.4	29	233	17.0	62	364	8.9	8	96	12.2	23	188	18.8	91	485	12.0	12	100	6.4	19	296	13.8	122	881	1965
22.8	47	206	36.9	108	293	5.5	6	109	24.1	42	174	35.1	142	405	23.8	19	80	14.1	42	297	26.0	203	782	1966
13.3	20	150	19.0	40	210	5.7	5	88	16.8	19	113	19.4	56	289	21.3	10	47	8.0	18	225	15.0	84	561	1967
11.5	15	131	13.8	30	217	8.5	7	82	9.5	12	126	14.0	41	292	5.6	3	54	9.5	20	210	11.5	64	556	1968
21.5	38	177	9.0	29	321	5.3	6	114	20.8	33	159	19.5	74	380	10.5	9	86	7.5	23	305	13.7	106	771	1969
13.6	25	184	17.1	59	345	8.0	11	137	23.0	41	178	18.8	76	405	17.0	16	94	12.8	44	345	16.1	136	844	1970
16.9	27	160	16.8	64	380	5.9	9	152	15.0	31	207	15.8	70	443	16.9	19	118	12.4	42	338	14.6	131	899	1971
18.0	29	161	16.8	62	368	4.1	7	169	13.1	24	183	16.9	67	397	17.6	21	119	9.3	34	365	13.8	122	881	1972
18.2	32	176	19.1	65	341	8.7	12	138	11.5	25	217	16.0	63	394	22.1	25	113	12.6	46	365	15.4	134	872	1973
12.4	25	201	14.0	49	349	4.7	7	148	14.9	36	241	14.9	63	423	11.3	13	115	10.2	41	401	12.5	117	939	1974
11.7	26	222	19.4	66	340	4.5	7	155	14.8	37	250	15.0	66	441	20.3	24	118	10.8	44	408	14.1	136	967	1975
18.7	47	252	16.0	54	337	7.8	12	154	22.4	59	263	16.0	76	474	18.3	20	109	18.0	76	423	17.1	172	1006	1976
20.8	49	236	16.1	55	342	6.9	10	145	22.9	52	227	18.9	84	445	12.9	13	101	17.1	69	404	17.5	166	950	1977
23.9	49	205	20.6	65	315	10.7	16	149	16.6	36	217	20.4	86	421	23.5	20	83	15.8	60	380	19.2	166	884	1978
30.8	45	146	17.3	58	335	14.4	21	146	15.0	31	207	21.4	83	388	23.0	20	87	14.5	52	359	18.6	155	834	1979
14.5	18	124	14.8	45	304	5.7	7	122	5.2	8	155	14.1	46	326	5.1	4	78	9.3	28	302	11.0	78	706	1980
15.9	23	145	8.9	32	359	5.4	9	166	12.5	25	200	10.5	41	391	8.2	8	97	10.5	40	382	10.2	89	870	1981
32.2	46	143	19.8	68	344	11.3	19	168	33.7	59	175	19.3	78	404	34.1	29	85	24.9	85	341	23.1	192	830	1982

Administrative

Source: Sen. Mer. Mar. Manp. Planner, Shipping &amp; Ports Authority

TABLE 1.1 ISRAEL MERCHANT MARINE MANPOWER : TOTAL NUMBER AND PERCENTAGE OF ACTIVE, & QUITTING OFFICERS, BY SHIP DEPARTMENT AND RANK LEVEL, FOR 1960-1982

given to the collected data; data which includes information about annual quitting rates and annual sea-time on board the ships. Even if trying to explain the information on annual sea-time on board ships seemed simple, at first glance, there is no simple understanding of the trends in the annual quitting rates (See Table No. 1.1).

As can be seen from figure 1.1 (based on Table 1.1), two immediate conclusions are drawn. First, the fluctuations of quitting rates are almost without a clear pattern and if this is analysed (either quitting by ship department, or by rank group level) it still remains unclear. Secondly, it is hardly possible to find a pattern. In some years radio officers quit more than officers of other departments, while in other years deck officers quit less than others. We also see that in most years deck and engine officers have the lowest quitting rates, whereas the other groups show mixed trends of quitting.

As a result, a series of questions are raised as to why some officers quit more than others. Or, why do they quit less than others in different time periods? Are the causes for this quitting behaviour related to personal characteristics of the population, or rather to occupational factors, internal to the shipping industry, or to external factors related to shore life, opportunities, economic situations or to the technological level of society at large? Are these quitting rates stemming in various points of time from different blends and configurations of all or part of these causes? Do those who quit have anything in common or are they also different from those who stay, and why?

In order to answer these questions, a review of literature in this and related fields is presented (which is the aim of the first chapter). First,

Percents and annual Quitting Rates of Israeli Merchant Marine Officers - Active Officers Only  
By Department and Rank for 1960-1982 (1967=100.0)

Total of Israeli Ratings		Israeli Officers by Rank (DECK,ENGINE officers in all bars, + RADIO,ELECT.,FRIG.in 2'nd)								Israeli Officers by Ship Dept.						Total of Israeli OFFICERS		YEAR
		3'rd & 4'th Deck,Engine		2'nd,Radio, Elect.Frig.		1'nt Offic. Deck,Engine		Masters & Ch.Engin'r.		Engine Officers		Radio Officers		Deck Officers				
		R	%	R	%	R	%	R	%	R	%	R	%	R	%			
18.8	7.2	39.8	5.3	33.2	6.3	150.0	8.6	71.4	12.0	54.1	10.5	18.8	4.0	51.3	4.1	50.0	7.5	1960
22.5	8.6	52.6	7.0	51.6	9.8	13.3	1.0	88.1	14.8	59.3	11.5	0	0.0	76.3	6.1	56.7	8.5	1961
21.2	8.1	76.7	10.2	43.7	8.3	42.7	3.2	72.0	12.1	44.8	8.7	56.3	12.0	101.3	8.1	59.3	8.9	1962
46.3	17.7	52.6	7.0	43.2	8.2	56.0	4.2	70.2	11.8	58.2	11.3	15.5	3.3	56.3	4.5	54.0	8.1	1963
86.4	33.0	70.7	9.4	98.4	18.7	50.7	3.8	71.4	12.0	86.1	16.7	57.3	12.2	82.5	6.6	85.3	12.8	1964
103.1	39.4	93.2	12.4	89.5	17.0	110.7	8.3	72.6	12.2	96.9	18.8	56.3	12.0	80.0	6.4	92.0	13.8	1965
136.4	52.1	171.4	22.8	194.2	36.9	73.3	5.5	143.5	24.1	180.9	35.1	111.7	23.8	176.3	14.1	173.3	26.0	1966
100.0	38.2	100.0	13.3	100.0	19.0	100.0	5.7	100.0	16.8	100.0	19.4	100.0	21.3	100.0	8.0	100.0	15.0	1967
61.0	23.3	86.5	11.5	72.6	13.8	113.3	8.5	56.5	9.5	72.2	14.0	26.3	5.6	118.8	9.5	76.7	11.5	1968
102.9	39.3	161.7	21.5	47.4	9.0	70.7	5.3	123.8	20.8	100.5	19.5	49.3	10.5	93.8	7.5	91.3	13.7	1969
76.7	29.3	102.3	13.6	90.0	17.1	106.7	8.0	136.9	23.0	96.9	18.8	79.8	17.0	160.0	12.8	107.3	16.1	1970
80.6	30.8	127.1	16.9	88.4	16.8	78.7	5.9	89.3	15.0	81.4	15.8	75.6	16.1	155.0	12.4	97.3	14.6	1971
70.9	27.1	135.3	18.0	88.4	16.8	54.7	4.1	87.0	13.1	87.1	16.9	82.6	17.6	116.3	9.3	92.0	13.8	1972
75.9	29.0	136.8	18.2	100.5	19.1	116.0	8.7	68.5	11.5	82.5	16.0	103.8	22.1	153.8	12.3	102.7	15.4	1973
57.1	21.8	92.3	12.4	73.7	14.0	62.7	4.7	88.7	14.9	76.8	14.9	93.1	11.3	127.5	10.2	83.3	12.5	1974
53.7	20.5	88.0	11.7	102.1	19.4	60.0	4.5	88.1	14.8	77.3	15.0	95.3	20.3	135.0	10.8	94.0	14.1	1975
53.9	20.6	140.6	18.7	84.2	16.0	104.0	7.8	133.3	22.4	82.5	16.0	85.9	18.3	225.0	18.0	114.0	17.1	1976
52.4	20.0	156.4	20.8	84.7	16.1	92.0	6.9	136.3	22.9	97.4	18.9	60.6	12.9	137.5	17.1	116.7	17.5	1977
54.2	20.7	179.7	23.9	108.4	20.6	142.7	10.7	98.8	16.6	105.2	20.4	110.3	23.5	197.5	15.8	105.3	19.2	1978
54.5	20.8	231.6	30.8	91.1	17.3	192.0	14.4	89.3	15.0	110.3	21.4	108.0	23.0	181.3	14.5	124.0	18.6	1979
28.5	10.9	109.0	14.5	77.9	14.8	76.0	5.7	31.0	5.2	72.7	14.1	23.9	5.1	116.3	9.3	73.3	11.0	1980
31.2	11.9	119.5	15.9	46.8	8.9	72.0	5.4	74.4	12.5	54.1	10.5	38.5	8.2	131.3	10.5	68.0	10.2	1981
42.4	16.2	242.1	32.2	104.2	19.8	150.7	11.3	200.6	33.7	99.5	19.3	160.1	34.1	311.3	24.9	154.0	23.9	1982

SOURCE: Sen.Merch.Mar.Manp.Planner, Shipping Alerts

Fig. No. 1.1 (a)

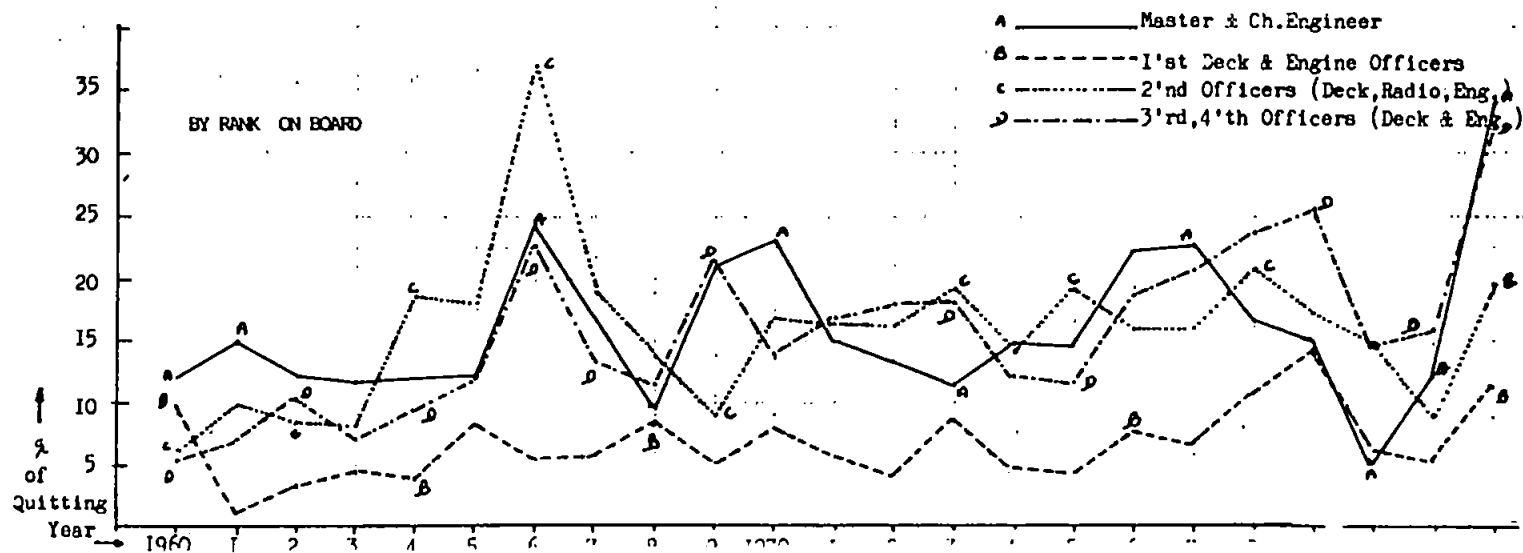
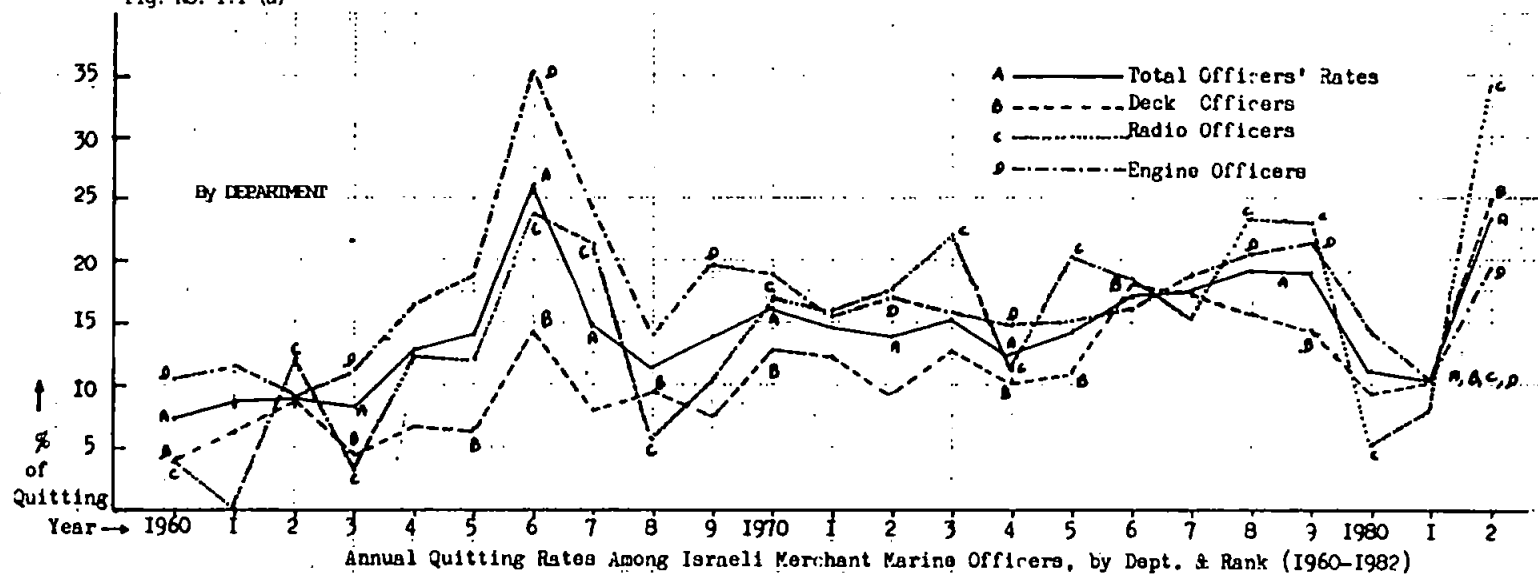
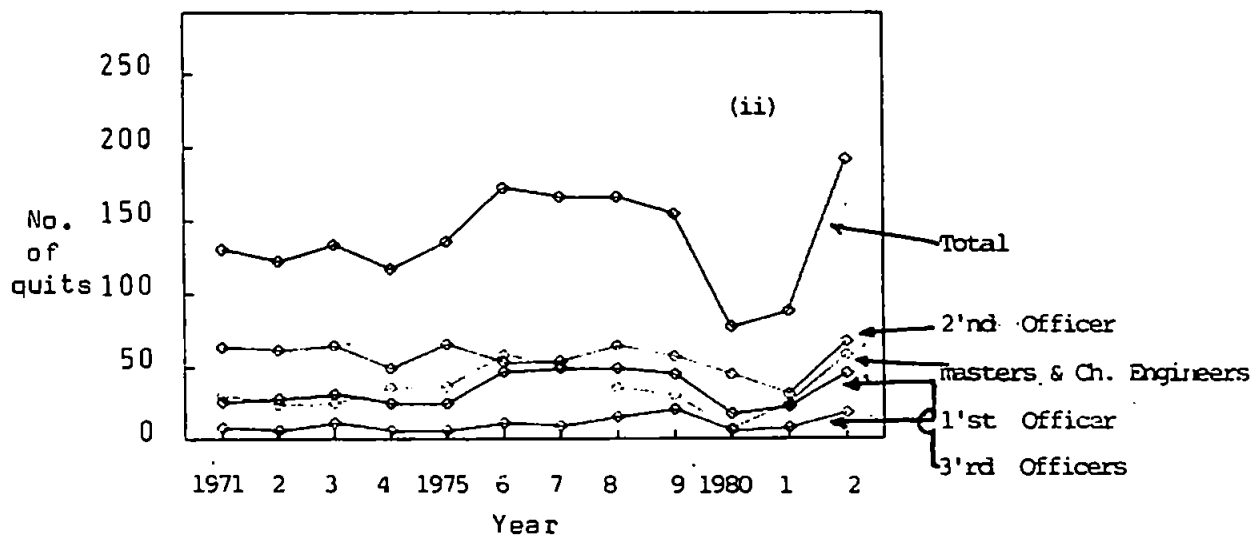
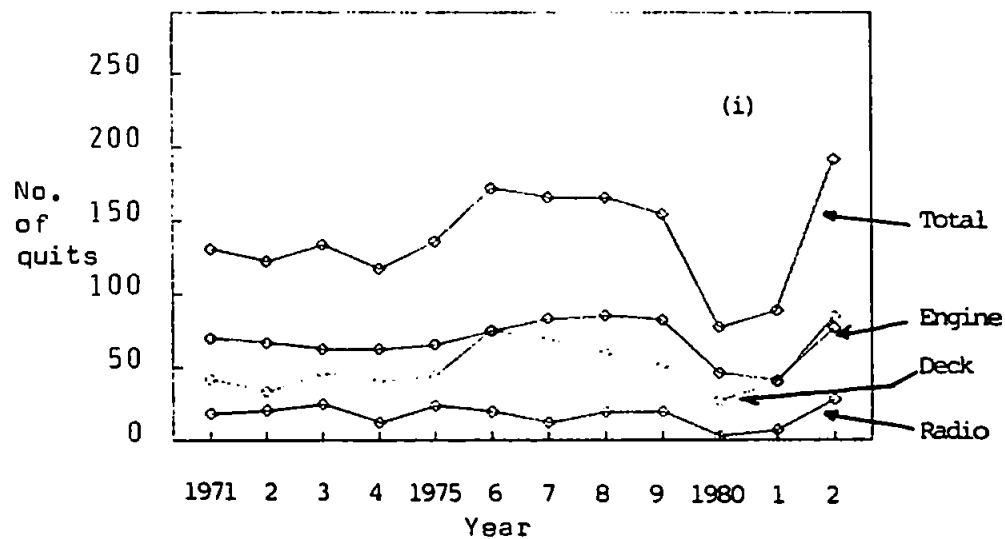


Fig. NO. 1.1 (b)

ANNUAL NUMBERS OF QUITTS by DEPARTMENT(i) and OFFICERS' RANK (ii)



a short discussion is dedicated to the seafaring occupation. Next, an analysis of the literature about turnover theories is presented and summarised. This is then followed by works which deal with commitment and quitting behaviour in the seafaring context. In the second chapter an attempt is made to relate this knowledge and to summarise the literature concerning seafaring occupational behaviour.



## 1.2 SEAFARING : A THEORETICAL AND EMPIRICAL PROBLEM

When depicting man's behaviour and activities in the maritime environment, most researchers would agree with the statement that the maritime environment is unique because it is essentially alien to man (Rosengreen 1973 : 71-72). This environment is generally characterised by two main factors : a) the participating individuals, organisations, and communities act (or try to act) in an autonomous and independent fashion so as to crystalise and establish their own definitions and uses of the marine environment and, b) this is a unique environment insofar that man's relationship to it is tentative, temporary and basically exploitive. The intrinsic conflict between the aims of the industry to survive and endure during time on the one hand, and the individual's aims to go 'through it' and 'exploit' it, on the other hand, cause the phenomenon of voluntary withdrawal and turnover amongst seamen. The author will describe this contradiction and, as a result, a research problem (which is central to this study) shall be revealed, namely, the organizational and institutional effects upon Merchant Marine Officers' occupational commitment.

The same contradiction is found when trying to describe the uniqueness of the maritime occupation. It entails isolation, disruption of normal social and family life and is based on social deprivation which, in turn, causes forced relationships amongst people on board ships and rigidity in the hierarchy of occupational ranks. These unique factors force total influence upon the seafarer's life-style and occupational behaviour and is believed to cause an intrinsic conflict between work and non-work roles and, therefore, influence their occupational commitment (Rosenstein, Mannheim and Nutes-Kinberg, 1975 : 5).

The two contradictions mentioned (the environmental and the occupational alike) in the present study are aimed to show that the maritime environment

and occupation cause the commitment (or the lack of it), among seamen. We shall, therefore, begin with a short description of the occupation, institution and industry, so that a common understanding of the problems is established.

When embarking on a sociological study of seafarers, Fricke (1974 : 1) states that the notion of 'total institution', as termed by Goffman (1961) Aubert (1965, 1969) and Janowitz (1960), is no longer true. Although the author can find the argument is 'not beyond criticism' (Rosenstein et al, 1978), as stated by Perry and Wilkie (1973), it is useful to assume that 'totality' exists aboard ships. A similar notion is yet to be found where personnel managers are concerned, some of whom still regard seafarers (or wish to regard them) as comprising a 'captive labour force': in still more recent years, as described by Moreby (1981), other managers do already accept the fact that many seafarers will want to move into shore employment, and take steps to prepare themselves for useful work ashore (Moreby, 1981 : 144).

Through discussions of the term 'total institutions' in shipping, authors begin to define the social features of the seafarers' occupation and the surrounding organizational and institutional environment. This debate is of importance, since it is widely believed that the term which triggered it does not hold any more as Moreby, when discussing this matter, hints by concluding that "Whether they are features or relative dimensions, the list is as follows ...." (Moreby, 1975 : 42). He also adds to this list - (Goffman, 1961) some further features and brings it up to 34 points and elements by which life aboard ship is typified. Mannheim and Rosenstein (1975 : 41) summarize this list and condense it into fewer points. These are that life on board ship is fused and includes both spheres of work and non-work behaviour. The ship is a separate territory.

and there only men live their special lives, "since women rarely get employment on non-passenger ships". Seamen do often change ships and social and working relations are therefore almost always temporary and broken after each voyage. Because of this temporary style of living, the formal organization demands a rigid hierarchy of clear differentiation between rank and file. An important point is that, on shore, when the employee finishes his day's work, he returns to his family and social milieu, whereas the seaman's work necessitates a detachment from primary social frameworks (such as family and friends) or more secondary groups that he belongs to. This detachment is, of course, not a total one, but requires special energies of adaptation and re-adaptation and generates considerable inter-role conflict.

At a conference of social scientists held at Plymouth in 1970, features were added to Goffman's list (Moreby, 1975 : 42). The common denominator to these points is that they describe relationships between the seamen themselves on board ship, from the organizational point of view, and some describe social relations and shore influences upon the social cohesion and formal or informal relations among seamen when on board the ship. What all the descriptions of the occupational uniqueness of seafaring actually lack are the aspects which describe the attitude and relationships between the seamen and their employers, or aspects which shed light on the relationship between the individual seaman and his role, occupation and professional institutional environment (such as to his union), his career and instructional educational bodies, or even to law and regulations according to which he must live and work on board the ship. These are, rather, thought of as independent variables to be studied and considered in research works. Yet these can, and must, be defined a priori, and related to those attitudes which are found as characteristics of other occupations ashore. It is,

therefore, intended to bring into this thesis some further features which are, in a way, unique to the maritime occupation and are rarely found in shore-based occupations. These are of importance because they shed light on commitment and turnover among seamen and are practically neglected by the research as of to-day.

There is the syndrome of "the last ship", or "the last voyage". When talking to seamen, just before the end of a voyage, one often hears that it is the seaman's last voyage, or "I shall never return to sea, when this trip is over". Yet, after a period of "shore leave", most of them come back, and, sometimes even with new or renewed expectations from their next voyage. This is hardly heard among shore workers; if they make such a statement, they usually mean it, and would probably leave their employer soon thereafter. Whereas when a master or a chief engineer with thirty years at sea utters this expression (even if they mean it), most times, they have not found a job ashore.

Another unique feature of the seafaring occupation is that, before a new voyage, one can hear that the seafarer is trying to choose a ship, or ask whether his wife would be allowed to sail with him, or try to avoid sailing on a particular ship, for which the seaman may submit various reasons. He might say, for example, that he cannot sail because he must attend his 'sick' wife, or that he must take care of his old mother, who needs hospitalization. Yet all these reasons are invoked to support his wish to delay a voyage or for a proper timing that will enable him to be a member of a crew on a particular ship, or a preferred line and the like. These reasons are sometimes so transparent that it is clear that what he actually means is personal bickering with regard to working conditions in addition to what is included in the binding contract signed between the employer and the seafarers' union. A person working ashore is hardly able

to negotiate his working conditions every now and then with his personnel manager. His contract is renewed once a year or every two years, by the employing management. The causes of, and reasons for, these two features will become clearer later on.

Some elements of change and traditionalism can be identified that are rarely found in other occupations. Yet these stem from and are related to the points mentioned earlier. First, the notion that labour relations have changed very much in shore based organisations, while relatively few changes have taken place on board ship. Another point which can be argued is that significant financial rewards were an important incentive for seafarers, but labour shortages in most industrial countries have reduced this advantage as remuneration ashore has improved significantly. The third element is the modernisation aspect. Many nautical and maritime people have openly stated that this is a traditional occupation which is undergoing rapid modernisation. Yet in relation to this, one can point out that when a process of modernisation takes place in a shore-based occupation or industry, we can find a closer relationship between the technological demands from people who would have to be employing this modern technology, than the link to be found between technology and the human factor in shipping. What is meant here is that, if a shore based industry is planning to engage modern technology, the question of who shall activate it and operate it arises. Usually, the problem is ; who shall be the proper human element or body of employees for this change. In the shipping industry in most countries, this is not the case. When a shore based industry has decided to change itself into a modern entity, there is hardly any retreat. When the shipping industry has introduced modern technology on board, one finds out that some shipping companies are withdrawing to a more retarded phase where newer ships are not necessarily more modern but less, than the others. To make this comparison clearer

we can say that, be it a slow or fast speed of change toward modernisation in any shore-based industry, it is always, or almost always, in one direction. In the shipping industry, it is almost always some steps forward and some steps backward - from a technological point of view. A seaman can sail for one or more voyages on a very modern ship and, after that period, return to sailing on board a ship not yet touched by modernisation. This obviously is strongly related to the instruction and education of seamen.

Another factor of comparison between shipping and shore-based industry, is that if an entrepreneur who has built up a company decides to sell his property, it does not always mean that his workers become unemployed from one moment to the other, provided the company operates economically. When a shipping company is liquidated, all its seamen find themselves immediately out of jobs. The active shore-based company remains in its geographical place, whereas ships are sold from one country to another and seamen of one nationality are not allowed to work under another national flag in many cases. Another very similar but distinct feature is that in a shore based industry when a technological planned change or turnover, unplanned by the owner occurs, the owner would probably tend to allow the maximum economic period of time for smooth change by overlap period of new with the old together. In shipping it is a customary practice to change the entire crew before a new voyage, even without overlap.

As Mannheim and Rosenstein argue (1975 : 42) in reviewing the unique characteristics of seafaring as an occupation, it is somewhat surprising that few studies about seamen's occupational behaviour and commitment, or the lack of it, exist. It is, therefore, the aim of the present study, to investigate the commitment and turnover behaviour of Merchant Marine Officers' behaviour.

A general direct question derived from the description of seafaring above, is, what are the reasons for people to remain in the seafaring occupation for longer or shorter periods of time on the one hand, and on the other, what are the reasons that cause the same population to quit and withdraw voluntarily from this same occupation?

The question can be answered in various ways depending upon the point of view of the researcher who undertakes to answer these queries. Phrasing this question in such a way, brings to a combination of more than one theoretical perspective, for as we find in the literature reviews, few authors have tried to deal with both sides of the phenomenon simultaneously. It is rarely found in research works that both questions of why do employees remain or why do they leave their work and occupation are approached as two poles of a single continuum.

### 1.3 DEVELOPMENT OF TURNOVER THEORIES

Some sixty years ago, Fayol (1949 : 38-39) in his 12th principle pointed out that management should strive to attain "stability of tenure of personnel". For years, since, management has regarded quitting as a problem. On the basis of this, managers saw withdrawals as symptoms of lack of employee commitment and involvement in the job, the occupation or the work place. Trying to analyse the problematic aspects of turnover, and asking why it is a problem, Blueborn (1982) argues that there are three reasons - two of which are sociological by nature and one economic. These point out the work of Mowday (1981 : 120-123) who wrote about "viewing turnover from the perspective of those who remain ...", from which we learn that this problem is actually the feeling of insecure managers, that quitting means "rejection" of the organisation. The other reason is related to the socialisation process of managers, who see turnover and absenteeism as indicators that something must be wrong - for this is how these managers had been trained to think. The third reason is that the economic costs of turnover cannot be ignored (Cawsey and Wedley, 1979). This, however, does not mean that turnover is the only matter that concerned scientists, but only recently, were both turnover and commitment, investigated as one entity within an inclusive perspective.

Allport, when addressing the "supra-individual phenomena (groups, organisations etc.)" has provided a useful solution to the problem of defining the term withdrawal (which includes both turnover and absenteeism as well as other forms of behaviour), building his notion on the basis of the involvement of the individual by participating in the organisational entity which is but a "particular cycle of events". Drawing on Allport (1954, 1962, 1967), Blueborn (1982) analyses the development of the theoretical approaches to the phenomenon of turnover. According to Allport, then, the individual taking part in the different cycles of events



(such as family, work - organisations or even voluntary organisations), shows at different points of time, various levels of involvement according to different cycles of events. Thus, when the opposite of participation occurs, according to him, it is a manifestation of the <sup>reduced</sup> interaction between personality and event cycles.

The importance of this approach lies in the assumptions lying behind it, that is, the theoretical notion of Parsons' (1949) structural functional "movement between the phases"; where in each and every point of time a decision is made to indicate the relatively most important choice that best suits the individual. Is he to be more committed and identify with the social cycle of events, or become less involved and quit or withdraw. The second assumption included in this theoretical thinking is that the amount of participation can be described as a continuum where on the positive side is the commitment, and on the negative side is quitting. The third point is that one is always confronted with a choice between alternatives. The last, but not the least important assumption, is that this phenomenon is actually a process of decision making, where the individual decides whether he is "in" or "out", as defined by Price (1977 : 3). Price, would describe it as the individual's decision as to whether one is still a member included in the boundaries of the organisation, or its negative aspect, the turnover. This is therefore the theoretical approach by which turnover is defined by Price (1977 : 3) as : "the degree of movement across the membership boundary of a social system".

Reconsidering the above description of the unique features of the seamen's occupation, we may say, that the definition used by Price (1977 : 3) fits the notion of the temporary and the exploitive quite well.

According to the above mentioned assumptions, we do find two models in the

literature. Melbin (1961) suggests that the individual shall first tend to exhibit minor forms of withdrawal and eventually progress to moderate and ultimately very serious forms, such as leaving or quitting the organisation. This is a 'continuum' model. On the other hand is the 'alternative forms' model (Price, 1977 : 8), which suggests that when one form of withdrawal is either difficult or impossible, alternatives will occur instead. This is what is meant later, theoretically, by the term "dissatisfied stayer" (Bowen, 1982 : 205-211). Yet, as Bluedorn (1982 : 77) suggests, there have not been any studies which have made a "strong test of these two models in order to choose between them", and he also gives some reasons for this fact, based mainly on the difficulties of empirical research procedures.

We shall therefore define the term turnover, by use of Price's focusing on the movement of individuals across organisational membership boundaries. This allows us to see participation, involvement and commitment, as movements of individuals into the organisational membership boundaries (Wanous, 1975 : 1., Hall and Hall, 1976 : 3). By so doing, we stress the notions of process to either direction, labelling it (the process), with a dynamic quality, where we are confronted with the main question - what are the factors influencing the individual to choose any of these directions (in, or out of the membership boundaries). Two elements must be included within this definition. These are (a) the element of voluntary action, or voluntary decision making and, (b) the element of opportunity. The aim here is not to build a taxonomy of turnover, as does Bluedorn (1982 : 81-82), but rather to analyse voluntary action in either movement into or out of the membership boundaries of the organisation. The second element is that of alternatives. The assumption is that the member moving into these boundaries, may have had some other less appealing

alternatives when he had chosen to be a member of this particular body. This is also true, if this was the only feasible way open to him. We also assume, that the member whose direction is toward the periphery up to quitting the organisation, has in most cases a better alternative than his present position, or situation, which is also more attractive and probably already arranged or attained.

Basically, the assumptions for either commitment or turnover, as defined earlier, also mean that the individual's personality, aims and needs, importantly affect the way the individual perceives his or her environmental situation, and that perception in turn influences behaviour (Johnston, 1974 : 623). Therefore an effort will be made to distinguish between the phases of theoretical development of two parallel veins. The theories of commitment and those of turnover will be discussed simultaneously. In order to do so we shall draw on Bluedorn (1982) whose analysis allows us to find the developmental relationship between the two theoretical constructs.

Price (1977 : 66-91), when drawing on the model developed by March and Simon (1958 : 93) suggests a "process-model" producing voluntary separations composed of structural, economic and social psychological variables. According to the massive literature about the determinants and antecedents and the intervening variables of turnover reviewed, the model suggests seven determinants that appear to produce variations in turnover, and two variables, traditionally seen as intervening between six of these determinants and turnover (the dependent variable). Different scholars who study turnover emphasise different variables. Economists, stress more often variables such as pay and opportunity. Psychologists and sociologists more often focus on integration, instrumental communication, centralisation,

routinization, distributive justice, professionalism and job satisfaction. These scientists also point out the possible interaction effects between pay and the importance of pay, and between opportunity and satisfaction. None place great stress on the importance of community participation, social class and work commitment (See Price and Bluedorn 1980 : 219-220).

Initially, there appeared to be little knowledge of the relative power of all the variables (independent and/or intervening) in explaining the variance of turnover. This, therefore, was the main aim in Price's work, the major purpose of which was "to rank all these variables by the extent to which they can explain the amount of variance in turnover ..." (Price and Bluedorn, 1980 : 220). A distinction is also made between correlates and determinants (Price, 1977 : 24-43) and because of "parsimony" inclusion of as few variables in the model and exclusion of correlates is dictated.

It is the case that antecedents of satisfaction are assumed to produce variation of the individual's job satisfaction level. The model thus, is built on the causality between "antecedents of job satisfaction" which causes different levels of job satisfaction with the intervening influences of "opportunity", which both in turn cause voluntary separation (Bluedorn, 1982 : 82). As mentioned earlier, this conceptualization follows March and Simon's model (1958 : 93).

The inclusion of "opportunity" as an intervening variable is also consistent with March and Simon (1958) theoretical thinking. The meaning of "opportunity" is operationalized as "the number of alternative jobs outside the organisation available or open for the employee". This model stresses the use of variables "seldom considered in a single turnover study". It

emphasises a causal flow and process rather than static correlations of variables - not previously undertaken by researchers. And, it has been tested eight times since its original formulation. Two modifications were inserted into it during this period (Bluedorn, 1982 : 83).

The first modification of the initial model was that opportunity has been positioned as an antecedent of satisfaction. This was rationalised along Merton's (1968 : 281-294) relative deprivation concept ("the better jobs look outside the organisation, the less satisfied incumbents will be with theirs" - Schneider, 1976). This rationale is very similar to the explanation provided by equity theory (Adams, 1963). The finding that caused this modification was that "opportunity" revealed a substantial effect on intention to leave, independent of satisfaction (Bluedorn, 1982 : 83).

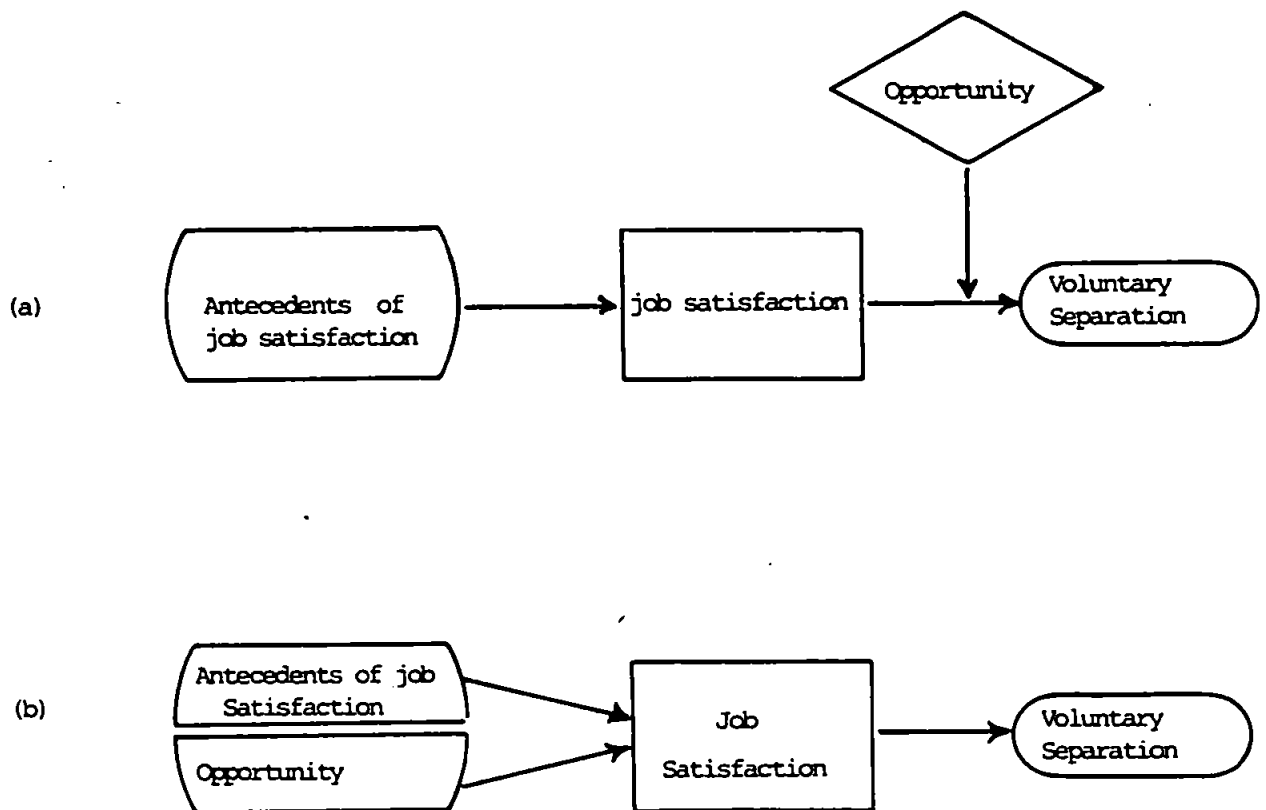
The second modification to the original model developed by Price (1977), concerns his incorrect assumption stemming from the differentiation and evaluation of the variables' types. Drawing upon the distinction between "correlates" and "determinant", based on Merton (1968 : 149-153), Parsons (1949 : 6-16) and Zetterberg (1965 : 79-86), he considered a "determinant" as a fundamental analytical variable, while a "correlate" was regarded as a variable of low theoretical abstraction. He therefore excluded correlates from his model, assuming that any variance they would explain be subsumed by determinants. For him, variables such as age, length of service, race, sex, marital status, are correlates. This was not confirmed, for all tests of the revised model have revealed the independent explanatory power "of at least one variable seen as a correlate by Price; this was either "age" and/or length of service" (Bluedorn, 1982 : 84). To sum up the development of the model, seven other empirical studies support the revision which puts

opportunity as an antecedent to satisfaction (Price and Mueller, 1979, Price and Bluedorn, 1980, Bluedorn, 1976, 1979, 1980a, b, Dickson, 1977, Martin, 1979, Wahba, 1980, Wince, 1980).

Fig. No. 1.2

Price's Original Model (a) and (b) Bluedorn's Revision

(Bluedorn: 1982-82)



Mobley (1982 : 121) in reviewing this model and its modification, evaluates Price's model in that its positive contribution lies in attempting to integrate organisational variables such as the determinants, environmental variables (such as opportunity) and the individual variables such as satisfaction. A criticism of this attempt, from an individual psychological perspective, is its lack of specificity regarding how individuals perceive and evaluate the determinants (pay, integration, instrumental communication, formal communication, centralization), and opportunity. "The model must assume that the determinants are equivalently valued outcomes to employees - that individuals have knowledge of alternatives and are unconstrained in pursuing them. These assumptions minimize individual differences in values, and perceptual and evaluative processes. However, Price does specify a number of individual demographic variables, such as age, tenure, that may be correlated with determinants and intervening variables". Blueborn's modifications are only mentioned by Mobley (1982 : 122) without any comment.

Parallel to Price's work, Mobley's work was also published in 1977. This study includes the theory of voluntary separation. Although this model is later developed into a much more elaborate one, Blueborn (1982 : 84) prefers the original work, with which he describes the missing links in the previous models. According to Blueborn, Mobley's model contributes the linkage and the filling in of the space which lies in the domain between job satisfaction and job separation. In both previous models, this behavioural space contained nothing - this space is a process "composed of thoughts of quitting, evaluation of the utility of the job search, search, evaluation of alternatives and at last, intentions to quit or stay". This model has been tested by research which supports the position that intention to leave is the immediate antecedent of staying or

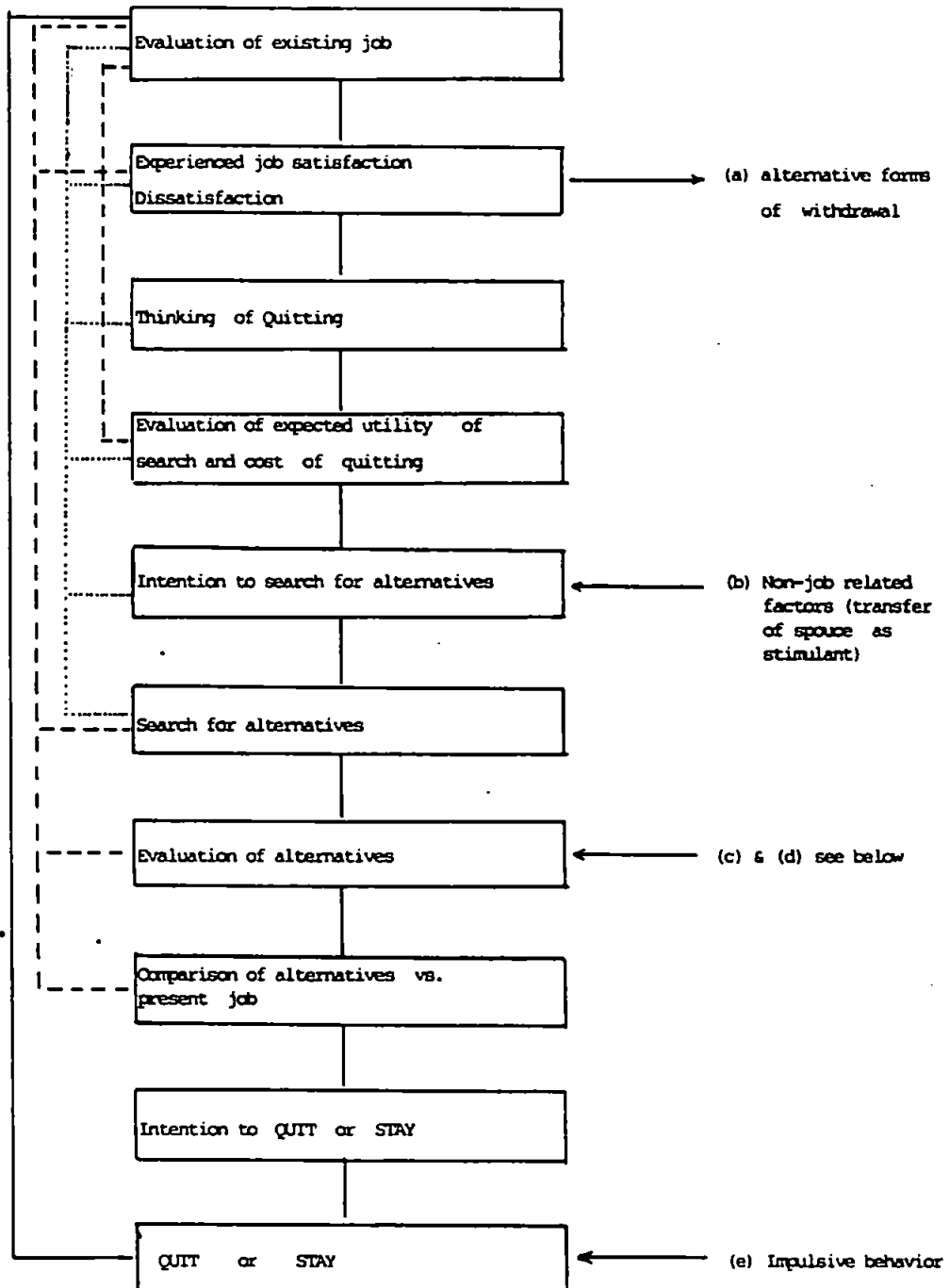
leaving (see : Mobley, Horner and Hollingsworth, 1978, Peters and Jackofsky, 1979, Miller, Ketterberg and Hulin, 1979, Coverdale and Terborg, 1980, Mowday, Koberg and McArthur, 1980). Mobley's model draws on Fishbein and Ajzen (1975 : 335-383) who considered the controversy concerning the connection between attitude and behaviour in which they try to explain that a behavioural intention is an intervening "step between an attitude and a behaviour". This framework predicts that satisfaction (an attitude) is an antecedent of intent to leave (a behavioural intention). The above mentioned five works also support this statement. These studies further support the location of job search between satisfaction and intent to leave. Bluedorn's (1982 : 85) point of view is that Mobley's model has a strong empirical (five studies) and theoretical (Fishbein and Aizen, 1975) foundation and as such, provides a general map of the behavioural space between satisfaction and separation. Mobley, himself, contends that his model (1982 : 122), (which draws on March and Simon (1958) and Lock (1975, 1976)) argues (a) for the need to move beyond simple replication of the satisfaction - turnover relationship toward research on the cognitive and behavioural processes that may occur between satisfaction and actual turnover, and (b) that Mobley presents a model of the turnover decision process which identifies possible intermediate linkages in the relationship. An important element in this model is that it suggests feedback loops at each step of the process. "For example, if search for alternatives is unsuccessful, it may lead to re-evaluation of the present job and a change in satisfaction". The model's major hypothesis is that intention to quit is the variable which immediately proceeds turnover. Mobley (1982 : 122) mentions two works found to support this effect (Porter and Steers, 1973, Mobley et al, 1979). Evaluating this model five years later, he says that research based on the simplified version of his model, has generally supported the hypothesis that intentions are the best predictors of turnover and that preceding variables, "including-satisfaction, do not add to-prediction of



turnover over and above intentions (Coverdale and Terborg, 1980, Miller et al, 1979, Mobley et al, 1978, Mowday et al, 1980)" (Mobley, 1982 : 122-123).

Fig. No. 1.3

Mobley's Intermediate Linkages Model (1977 : 238)



(c) Unsolicited or highly visible alternatives may stimulate evaluation.  
(d) One alternative may be withdrawal from labor market.

Although hypothesized, internal relations involving the probability of finding an acceptable alternative have been less clear. In fact, while the probability of finding an acceptable alternative has been shown to be related to thinking of quitting (Mobley et al, 1978, Coverdale and Terborg, 1980), it has not been related to search or intentions, as predicted (Miller et al, 1979, Coverdale and Terborg, 1980, Mobley et al, 1978, Mowday et al, 1980). It is also claimed (Mobley 1982 : 123-124) that "Tests of Price's model, have failed to find the hypothesized satisfaction-opportunity interaction". Four reasons are considered, but are not evaluated here because research to date does not permit the evaluation. This relationship still remains to be tested. Mobley (1982 : 124) concludes that a fundamental issue remains unaddressed. If turnover is to be treated as a process, with appropriate feedback mechanisms as the model suggests, it is necessary to use a research design which traces changes in the variables over time. To date, most of research is cross-sectional rather than longitudinal (Mobley, 1982 : 124).

Another scholastic tradition, is that of organizational commitment. Although many studies have empiracally investigated the relationship between organizational commitment and voluntary separation, they usually include other variables than those mentioned in the earlier research traditions. Porter and Steers (1974) define this commitment as the individual's identification with and involvement in an organization; the argument is that this variable is negatively related to voluntary separation. This has also been supported empirically (Porter, et al, 1978, Porter, Crampton and Smith, 1976, Steers, 1977, Koch and Steers, 1978). According to Porter et al, (1974), there is a clear distinction between satisfaction and commitment, and this fits in very well into the former models. To this, Bluedorn (1982 : 88) mentions the study of Marsh and Mannari (1977) and the proposition that job-satisfaction is a determinant of organizational

commitment. It follows, accordingly, that organizational commitment should be located in the space between satisfaction and voluntary separation. The exact location, stems from Bluedorn's work which tries to integrate all three scholastic streams into one model. However, for present purposes, mention needs to be made to the term "side bets", as used in Becker's work (1960). These produce commitment too, and the theoretical basis for this argument is that it is based on exchange theory according to which, if a person has already invested some of his unique personal assets, he would not wish to have his investments wasted. This person would wish to maximise returns out of his invested assets. This line of thinking has also been empirically supported (e.g. Ritzer and Trice, 1969, Alutto, Hrebiniak and Alonso, 1973, Stevens, Beyer and Trice 1978). The operationalization of the term - by asking the employee how likely would he quit for another job if it pays better or includes more responsibility, status etc. - combines the elements of intentions and opportunity, as developed by Price and Bluedorn. Bluedorn (1982 : 88) states that this stream of research is cited, but does not support any specific component of his model. However, Bluedorn neglects the theoretical background of exchange theory, for scholastically, he tries to develop a structural-functional causal model. As mentioned by Mobley earlier, and the conclusion from the last point, that we should attempt to attach opportunity as a variable with varying relative importance, which influences more than one or two variables in the causal chain. This notion of attitudinal behavioural decision-making based upon exchange theory, brings us to the fourth scholastic stream, that of the expectancy model.

The forefathers of this model according to Lawler (1973) are Tolman (1932) and Lewin (1935). Its basic concepts are valence (the attractiveness of an outcome) and expectancy (the perceived probability a given behaviour will

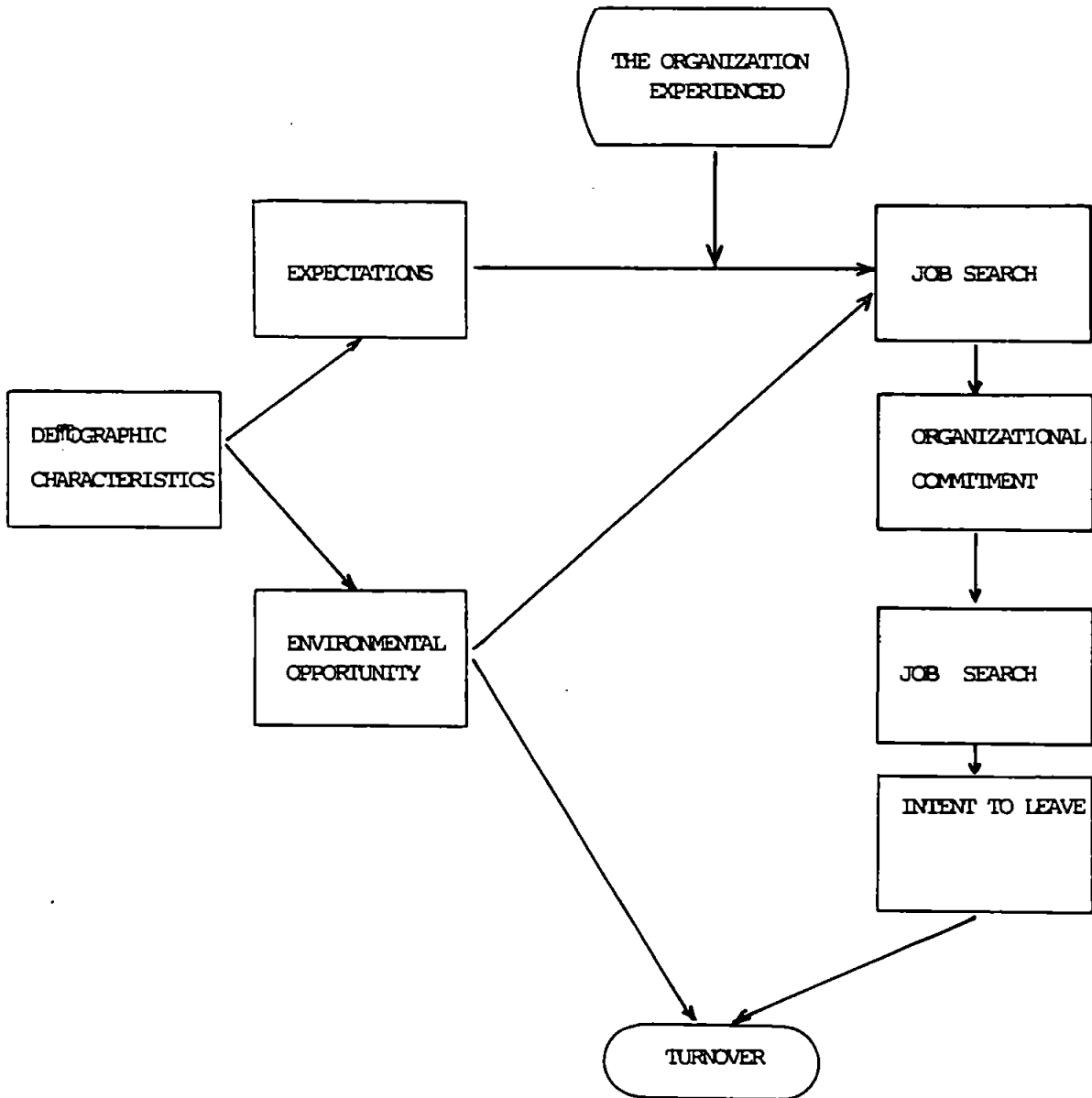
lead to a specified outcome). "The motivation to act is seen by most of expectancy theorists (e.g. Vroom, 1964) as the product of Expectancy X Valance" (Bluedorn, 1982 : 88). One more concept is of importance here, and this is the "met expectations", which refers to the extent to which expectations are realised (Spencer and Steers, 1979 : 2). Bluedorn considers seven studies which support the proposition, saying that when valued expectations are not met in an organization, the likelihood of voluntary separation increases. Two studies within this tradition are of importance here. The first is by McKamy and Sims (1977, 1980). In this study, a causal model is specified, within which expectations precede satisfaction. The second is that of Wanous (1973, 1980) showing that when employees' expectations from their organization are <sup>un</sup>met, they systematically have higher rates of turnover than employees whose expectations are more realistic.

Bluedorn (1980 a,b) tried to unify all the above into one model, in order to synthesize all these theories. The structure of the model has been confirmed "with one exception; no significant path was found between organizational commitment and job search" (Bluedorn, 1982 : 89). However, Wahba (1980), has found this correlation between organizational commitment and job search, and according to Bluedorn, this relation was found, due to the operationalization of the job-search variable. Wahba formulized this variable as the current search of jobs. Thus, if job search is operationalized with a temporal anchorage in the present, Bluedorn expects this model to be sustained. He therefore arrived at the following model based upon : (a) Price's model (based upon the Simon and March Model), (b) the modification to the former model : (c) the theoretical streams of expectancy theory, and commitment to the organisation. Here we must stress the notion that what is meant by expectations (Bluedorn, 1982 : 90) are those expectancies that exist at the time the individual enters the

organisation which are later transformed into a more realistic approach to the organisation itself. Since expectations are formed during the time of employment, the model should be sensitive to these also. This is argued because he assumed that in such a case the discrepancy between a more realistic collection of expectations and actual experience (in the future), should lead to a weaker intent to quit. Therefore, the expectations the employee has when entering a new organisation are the most important ones.

Here we arrive at a more important element, that of the organisational climate, and the institutional environment, which form the body of expectations of the employee, who should react to organisational situations affectively, cognitively and behaviourally. For Bluedorn (1982 : 91) "opportunity" is what is meant by "external opportunity" - labelled "environmental opportunity". The perceived environmental opportunities should accordingly have both a direct path with either quitting or leaving and an indirect path through job-satisfaction. This is suggested also by Wanous' model (1980 : 110-116) developed independently.

BLUEDORN'S UNIFIED MODEL (1982 : 90 )



There is a substantial body of research which indicates a correlation between "intent to leave" statements and actual turnover. Hunter (1962) found that 84% of first year American teachers (N = 1987) who were "very certain they would stay in education did stay. It was also found that 62% of those who were very certain they would leave (within a period of one year - although not specified) had actually done so". Nickey and May (1965) studying U.S. Navy enlisted personnel (N = 5000) found the same trend of results. The same general findings were reached by Boyd and Beyles (1968), Peil (1972 : 82-83), and Shank (1972). Price and Bluedorn (1977) have pointed to the reduced research costs associated with collecting "intent to leave" statements instead of data about actual staying or leaving. In addition, this research strategy can provide results much more quickly than the design which has to await actual behaviour. Coverdale and Terborg (1980) have even recommended using "intent to leave" attitudes rather than actual staying or leaving. Suppose a new research project is being planned, and the researcher finds this recommendation appealing, does this have any impact upon Bluedorn's model?

This unified model, developed by Bluedorn, exposes another problem. The model contends that a relationship should be found between environmental opportunity and job satisfaction variables as an indirect linkage with actual commitment or quitting, and a direct relationship with quitting but not with commitment. Yet the relationships are questionable when an operationalization of the variables commitment and quitting intentions is undertaken in accord with Bluedorn's work (1982 : 98). When building the 'Staying or Leaving Index' (SLI) a combination of these two variables into one index calls for a direct (relation) path between external opportunities with both commitment and intent to leave - contrary to the initial model itself, or does it not? This, especially when intent to leave should be used as a valid indicator for actual staying or quitting, or actual commit-

ment and the lack of it.

Another question is revealed when approaching Bluedorn's model as a process causality model of behaviour, attitudes and actual events. In a way, this model begins at the point where the employee has already decided to undertake a position. From here, the employee's attitudes and environmental opportunity influence various behavioural variables. This occurs up to the point at which either one is committed, or leaves the organisation. This is rather only one phase of the process, which is already felt to be a cycle of events, re-appearing and returning every now and then, so that after the employee has shown commitment (attitude), or the lack of it, to various degrees, he does not necessarily leave the organisation. Bowen's (1982) work raises the problem of the dissatisfied stayer, who would have wished to leave but cannot, due to the lack of an alternative opportunity. We are therefore in pursuit of a model which allows the possible existence of cycles or loops as is suggested earlier in Mobley's model (1977).

A fourth question arises when analysing this model, concerning the "job-satisfaction" variable. Any literature review shows that a distinction should be made between job, work and the organisation, and the satisfaction from each. An employee can "love" his job, and be very satisfied or dissatisfied doing it, but most employees have a need for their environment - be it social, organisational or whatever - to satisfy them accordingly. The simplicity in this model demands therefore, that the research work done should pay attention to more than only "job-satisfaction". This is a crucial matter when we engage with nautical officers' attitudes. The seaman, by nature of his job and occupation, changes ships very often. With this, all his social environment is also changed. What remain constant are the employing shipping company, its managerial philosophy and the professional/occupational regulations. We should not neglect therefore,



the "work/occupational/organisational" satisfaction. If such is the case, does the relationship between opportunity - external opportunity - and job, occupation or organisational satisfaction exist on similar or different levels of dependency?

In summing the literature reviewed to this stage, we have seen some theoretically parallel trends, combined into one empirical research work, which unifies the behaviourally causal process into one entity. However, because of this appealing way of thinking based upon different theoretical traditions, a number of empirical and theoretical questions are raised, as seen above, from which one is also tempted to question the validity and significance of the unified model on the whole. One is therefore tempted to rearrange the relationships between the variables included in this model accordingly - the first step in this direction follows below.

#### 1.4 COMMITMENT AND ENVIRONMENT AS RELATED TO TURNOVER IN THE SEAFARING CONTEXT

In the previous section, the development of a theoretical unified model concerning turnover has been considered. Turnover, was seen as a behavioural activity which stems from various causes, dealt with differently, by academically complementary theoretical approaches. We shall now turn to the concept of 'commitment' in the literature, in order to define it and to explore its relationships with turnover on the one hand, and, on the other, its relationship with situational and environmental variables. In a way, it could be argued that the same trends of theoretical development concerning turnover, found earlier, are expected to be found and traced here, although, in a less clear or more implicit manner.

Let us first reconsider the definition of turnover, namely, "the degree of movement across the membership boundaries of a social system" (Price, 1977 : 3). This definition allows two related terms to be distinguished, quitting and turnover. Whereas quitting is the actual behaviour of the individual employee moving across the membership boundaries of the social system, turnover is seen as a social phenomenon, of employees quitting the social system. As such, turnover is a construct which allows the social system to assess the rate, amounts and density of the quitting behaviour. This distinction is important for the understanding of the various theoretical approaches to the commitment phenomenon. Although we find in the literature various words and terms for commitment, such as loyalty, involvement, attachment, participation, and sometimes the opposite of alienation, all of which differently used or defined, we believe that the distinction found between quitting and turnover - actual behaviour and social phenomenon - cannot be found when we deal with commitment or its synonyms. Commitment is either the one or the other or both, or neither.

Kanungo (1981 : 1) describes the vast amount of work that attempts to understand the nature of both alienation and involvement, and finds these two concepts confusing and vague. Although social philosophers and social scientists have been preoccupied with the concepts for more than a century, our understanding has not gone beyond the superficial descriptive level. This, according to Kanungo's (1981) includes even the works of Marx (1844), Durkheim (1893), Seeman (1971) and Shepard (1971). Although hundreds of works dealt with this topic, only a few have seriously tried to operationalize the concepts of involvement and alienation (e.g. Blauner, 1964, Lawler and Hall, 1970, Lodhal and Kejner, 1965, Saleh and Hosek, 1976). Nevertheless, Kanungo's work (1981) mentioned three differences between the approaches of the sociologists and psychologists. "The sociologists with a clinical perspective have been concerned with identification conditions and consequences of state of work alienation where psychologists have been concerned with identifying conditions of state of work involvement". The second difference stems from the fact that the sociologists' treatment of work alienation considers the phenomenon, at the group or social level, whereas the psychological treatment of work involvement concentrates on analysis at the individual level. Finally, in describing the phenomenon, sociologists are more inclined to use "epiphenomenal categories" such as "loneliness", "Isolation", etc. (Johnson 1973), whereas psychologists restrict the description to behavioural terms, such as "working overtime", "participation in decision making process", "feeling satisfied at work" etc. (Saleh and Hosek, 1976). Besides the problem of unclear usage of the terms, one finds empirical indices in the literature that combine both antecedents and effects of involvement (Saleh and Hosek, 1976). Furthermore, Kanungo argues that there is confusion surrounding the nature of the causation of the phenomenon. Some researchers suggest that the causes are "socialization" (Lodhal and Kejner, 1965, Reis, 1982 : 73),

others suggest that the causes stem from "job situation" (Lawler and Hall, 1970). Kanungo himself tries to combine the two types of causality. Some writers fail to distinguish between work involvement and job involvement (Rabinowitz and Hall, 1977) whereas these two variables have been found to be two distinct constructs (Gorn and Kanungo 1979).

One way to approach these problems is to try and define involvement along the grounds of cognitive states of the individual, and thus to enable a sociological analytic approach (Kanungo, 1981 : 10-13, 1979). These states are 'Isolation', 'Normlessness', 'Powerlessness' and 'Self estrangement' (Kanungo, 1981 : 3). This solution assumes that the only difference between types of work alienation or involvement, from a motivational point of view, lies in the saliency structure of needs of the individual. Thus, not only should we suggest that different models of involvement should apply to different populations (Goldbert and Kirschenbaum, 1981), but the main conclusion leads us to suggest that in each point of need, one should apply a different model. This seems most demanding. A more complicated problem arises if we accept the notion that at various times one can de-escalate or escalate the amount or strength of an individual's commitment (Staw and Rose, 1978 : 40) because of different amounts of assets invested (committed).

Some writers have attempted to distinguish between commitment and satisfaction or other antecedents, according to which, commitment is a behavioural result of organizational situational and task environmental causes (Becker, 1960, Brown 1969, Buchanan, 1974, Grusky 1966, Hall, Schneider and Nygren 1970, Hrebiniak and Alutto 1972, Kenter 1968, Salancik 1977, Sheldon 1971, Weiner and Gerchman 1977). These works also distinguish between different effects of commitment; yet, commitment is differently defined and therefore differently operationalised by each writer (Mowday and Steers and Porter, 1979 : 224-226).

The main trends of commitment definition as noted earlier, are by focusing on commitment related behaviours - mainly upon overt manifestations of commitment. As Mowday et al, says : "... such behaviours represent sunk costs in the organisation where individuals forgo alternative sources of action, and choose to link themselves to the organisation" (1979 : 225). This notion is very similar to what is meant by the term "side-bets" as used by Becker (1960). Another trend of definitions is in terms of attitudes; whereas attitudinal commitment exists when "the identity of the person (is linked) to the organisation and those of the individual become increasingly integrated or congruent". (Hall et al, 1970 : 176). This definition represents the willingness of the employee to identify with the organisation and its goals and the wish to maintain membership in order to facilitate these goals (Mowday et al, 1979 : 225). This definition is a result of the same theoretical approach employed by Simon and March (1958) where such commitment encompasses an exchange relationship in which individuals attach themselves to the organisation in return for certain rewards and payments. It is therefore natural to draw on this line of thinking and define both turnover and commitment as a movement inside or outside the (organisational) social system's membership boundaries. For our purpose, it is important to note that both constructs stem from exchange intentions. It is for this reason that Mowday et al (1979 : 226) have developed the operational instrument for organisational commitment along Porter and Smith's (1970) lines as : "the relative strength of an individual's identification with and involvement in a particular organisation". It is characterised by at least three relevant factors : (a) "a strong belief in and acceptance of the organisational goals and values; (b) a willingness to exert considerable effort on behalf of the organisation, and (c) a strong desire to maintain membership in the organisation". This is the psychologist's positive point of view in studying behavioural commitment, attitudes and intentions of the individual,

whereas turnover (alienation), is the negative side of the same construct, studied by the sociologist as pointed out earlier by Kanungo (1981).

The differences between commitment as defined above, and satisfaction, are that commitment as a construct is more global, reflecting a general affective response to the organisation as a whole. Job satisfaction reflects one's response either to one's job or certain aspects of that job. In other words, commitment emphasises attachment to the employing organisation including its goals and values, while satisfaction emphasises the specific task environment where an employee performs his or her duties (Mowday et al, 1979). Another feature is that commitment should be more stable over time and job satisfaction less so (Mowday, 1979 : 226). This view is sustained by Porter et al, (1974), and by Smith, Kendall and Hulin (1969).

If such is the case, then, how can we explain the phenomenon of highly committed employees leaving their employment, or employers, or of highly dissatisfied people (from their job or employing organisation) staying and remaining in their posts?

The previous approaches are based actually on the notion of exchange relationship between the employee and his job, or his employing organisation. This relationship involves the inclusion of expectancy theory leading to congruence between attitudes and behaviour of the individual, when related to the rewards he gets when exerting work and membership toward his job or the (social system) organisation.

Although Rabinowitz and Hall agree to the previous theoretical approach, they add the elements of job characteristics and job satisfaction (1981 : 140)

In their study of developmental stages of career and job involvement, they explicitly hypothesize that ... "The basic hypothesis is that job characteristics and job satisfaction will be most highly correlated with involvement in early career. Individual difference variables such as work values and growth needs will be most important in mid career. None of these sets of variables is predicted to be related to job involvement in later career. Finally, rewards are viewed as important in all stages of one's career..." In another paper Rabinowitz (1981 : 32) mentions three specific theoretical perspectives dealing with job-involvement and its development; "(a) job involvement as an individual difference variable; (b) job involvement as a function of the situation, and (c) job involvement as a function of both the individual and the situation (i.e. additive effects)". This is another step in the development of the approach. The first stage is to find out the antecedents and results under different career stages. The second stage is to try and assess the transition mechanism from one career stage to the other. This is supported by Wanous (1974), Presthus (1965) and Holland (1973). Astonishingly, Wanous's work (1974) should probably support the notion (according to Rabinowitz, 1981-b) that involvement is not only a result of the environment influencing involvement through individual's work needs. It also argues (as a result of Wanous' analysis) that an involvement-prone individual will become involved when holding a job with such characteristics. This means that involvement is either a positive, favourable result of met desires (met expectations), or the lack of it, quitting and turnover is also but a result of those unmet desires. This is, of course, a step further in explaining the meaning of commitment, but as a process of events.

Sekaran and Mowday (1981) summarise this approach by suggesting the importance of examining both the individual's characteristics and the job situation, as determinants of job involvement or the similar construct

"commitment" (1981 : 52-53). Operationally the first determinant is to be studied by variables such as sex, age, educational level, length of service in the organisation and time on the job, and the second should include five core dimensions of job design identified by Hackman and Oldham - (skill variety, task identity, task significance, autonomy and feedback from the job, 1975) and job challenge as well (postulated by Buchanan to be - (1974)) positively related to commitment, a construct "conceptually related to job involvement". Sekaran actually found that adding job-challenge to the other five variables, increases the regression results (both in the American and Indian samples he had studied). So far, we find, that individual characteristics and job-situation are important in explaining commitment. Saal (1981 : 105), when analysing Kanungo's work, in which Kanungo (1979 : 132) states that an individual's beliefs that he/she is work involved or job alienated "depend on whether the work is perceived to have the potential for satisfying his or her salient needs". "Job involvement should be viewed as a generalised cognitive (or belief) state of psychological identification with work, and that it should be directly measured in terms of individual's cognition about his or her identification with work".

If involvement is a cognitive belief state of the individual, than it is understandable why research work has up to now seen it as a result of both the individual's characteristics and the situation around him on the job. After having employed his data analysis, Saal arrives at an important conclusion (1981 : 117) - "when job involvement was operationalised in purely cognitive terms ... the relationships between involvement and various individual and situational variables persisted. Only the magnitude of those associations was systematically altered suggesting that the purely cognitive measure of job involvement was less predictable (in terms of proportions



of shared variance) than a measure of involvement reflecting cognitive, affective and behaviourally oriented components". His conclusion is that Kanungo's ideas are most important in defining involvement as a "cognitive affective behavioural construct".

This brings us to conclude that one may try to distinguish between 'job involvement' as different from 'commitment'. This is more than similar to the differentiation we have already found between "intent to leave" and actual active quitting, or between "job search" and actual quitting. This is also sustained by Wanous et al., (1979 : 658), who found that organisational variables explain to a better extent, the employees' survival or turnover, than personal characteristics.

The next phase of the theoretical development (as we have already encountered within the "turnover/- analysis") is derived from Weiner's work (1982) in suggesting a more broad theoretical model for commitment. He views commitment "as a normative motivational process clearly distinguished from instrumental - utilitarian approaches to the explanation of work behaviour". He argues that, to date, most explanations of work behaviour produce contingencies models, such as expectancy and reinforcement theories. A basic premise of his model, therefore, is that a fuller explanation of individual's behaviour in organisations requires a consideration of "internalised normative processes, such as personal moral standards, as well". His argument is that such pressures, once established, may have long term effects on behaviour, independent of rewards or punishments. He does not reject the identification model, although his model is reviewed as an extension and reconceptualisation of this approach. In defining organisational commitment, drawing on Fishbein (1967), Jaccard and Davidson (1975), Pomazal and Jaccard (1976), Schwartz and Tessler (1972), he also suggests that the subjective norm is determined not only by social

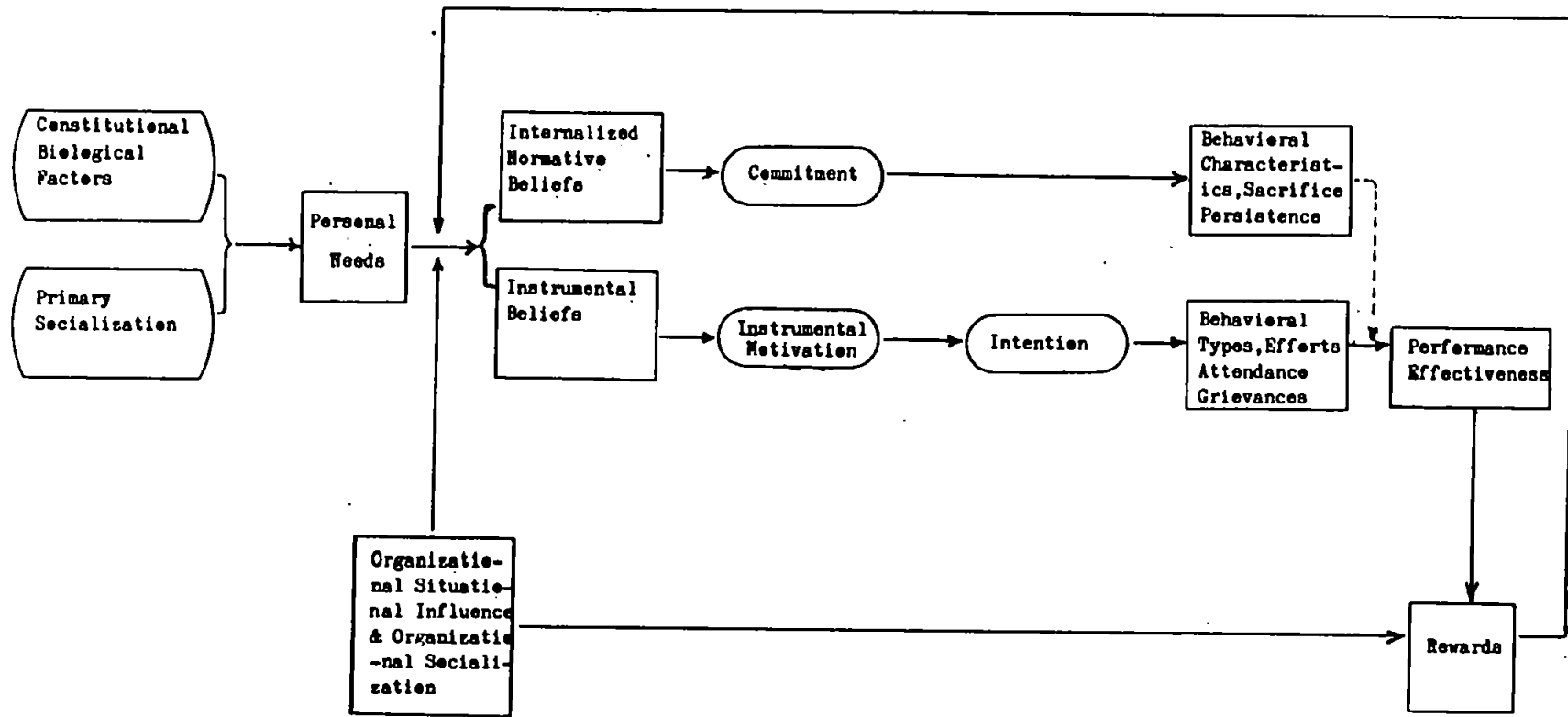
normative beliefs ("i.e., a person's beliefs of how others expect him to act"), but also by personal normative beliefs, that is, personal moral standards with respect to a given behaviour. Establishing a particular mode of conduct occurs when a person internalises expectations of others concerning this behaviour. And what is more, when such behavioural acts are guided by such internalised normative pressures, they are no longer dependent on their linkage with the reinforcements and punishments on which they were initially based. "It is this aspect of the subjective norm that defines organisational commitment" (1982 : 420-421).

The behavioural attributes of commitment according to Weiner therefore are : (a) reflection of personal sacrifice made for the sake of the organisation, (b) it should show persistence - that is the behaviour should not depend primarily on environmental controls such as reinforcements or punishments; and (c) it should indicate a personal preoccupation with the organisation, such as devoting a great deal of personal time to organisation-related actions and thoughts.

When sketching his theoretical model based on Fishbein (1967), and Fishbein and Ajzen (1975), Weiner brings us back to the prediction and understanding of behavioural intentions. This model suggests that behaviour is a function of the intentions to perform that behaviour. Intentions, in turn, are determined by two basic factors : (a) the individual's attitudes toward performing that act - that is, his evaluation or effect with respect to the act, and (b) his subjective norm or his perception of the totality of the normative pressures concerning the behaviour. He therefore develops the additive effects of both the instrumental cognitive and the subjective normative on intentions, which in turn, lead to actual behaviour (Weiner, 1982 : 420). It is obvious, too, that here are included the environmental effects, which have already been discussed, although Weiner neglects to analyse them here.

Fig. No. 1.5

WEINER'S THEORETICAL MODEL. (Weiner, 1982 : 420 )



As in the turnover models, here also is the "intentions" variable, leading to actual types of behaviour. It is of interest to mention here that as could have been expected, the other side of the so-called "intent to stay" is an internalised normative belief, preceding commitment. However, it is considered as a dimension of commitment (Bluedorn, 1982 Muchinsky and Tuttle, 1979). As with turnover, the essentials of the commitment model are the same, and based upon the March and Simon (1958) approach and its theoretically different derivatives, on the one hand, and on the other, both are based on Fishbein's model linking intentions and behaviour. Reducing all parallel derivatives mentioned, we arrive at the inevitable conclusion that quitting or turnover and commitment are basically two opposites of one construct or two poles of one continuum.

When Cushmir (1982 : 597) draws his model of job commitment, he arrives at an interesting conclusion. According to his model of the commitment process, personal influences are directed toward attitudes and values, and intrinsic needs, all leading to either "family characteristics" and "job circumstances" - in turn, both lead to perceptions, preceding commitment, and this commitment includes both propensity to leave and the propensity to stay, and propensity to become deeply involved with the job (although his point of view stems from the theoretical basis of conflict theory).

Before we conclude this chapter, we must clarify another area, which includes some very crucial theoretical problems concerning the domain of the "environment" and "alternatives". Steers (1977 : 48) says that highly committed people should have a strong desire and intent to remain with the organisation. Such an outcome is implied in the definition of commitment, (... "such behavioural intentions should be manifested in subsequent employee retention or turnover"). However, if we assume that intentions are the core matter preceding positive or negative commitment, we should notice

Mobley's et al., (1979 : 505) remark, that "intentions also capture the individual's perception and evaluation of alternatives". It is therefore obvious that organisational and job situations - influenced by the organisational climate - do influence greatly the perceptions of the individual employee weighing his work and work-conditions through time, and refers to what he thinks or hears about the climate and conditions surrounding other jobs in other organisations.

Cole (1980), in his comparative study of American and Japanese industries, and the influence upon mobility and anticipation, shows the influence of social norms and cultural trends as found by various authors (Abeglen, 1958., Rohlen, 1974., Bennett, 1967., Marsh and Mannari, 1976., Dore, 1973., Cole, 1971). According to him, research to date has concentrated on reviewing and analysing lifelong commitment of employees to the same firms based on a system of obligations shared with the management and the new system of rewards by age and length of service. Rohlen (1974) stresses the persistence of culturally infused meaning in the daily behaviour pattern of bank employees. Marsh and Mannari (1976 : 138) show that tenure and superiority are important elements in the labour market wages system. One can also find (Rees and Schultz 1970 : 219) that "Firms that pay high wages and advance wages substantially with length of service, have fewer quits and hence less need to train employees". Such a situation in the labour market has a very substantial influence upon the alternatives employees are confronted with and, in turn, upon their decision-making whether to remain or leave their present organisation. Zey-Ferrell (1982 : 352) considers the problem (already mentioned by March and Simon, 1957) of the person who wants to leave, but due to environmental constraints such as the labour market (job availability) or organisational causes, can have the only solution to remain in the organisation, and then in turn, try to change the work conditions into more favourable ones. What he

actually claims, is that to-date, no measures are constructed to test the ways employees who are forced to remain, choose to take in order to change the system they work in - (1982 : 352). Building his model in a bivariate fashion, he finds the job satisfaction variable to be the most influential in explaining his dependent variable-intent to leave or to remain, (1982 : 362). This is also found by Price and Mueller (1980). Rabinowitz (1981 : 35) in building his model argues that the time order of influences of various variables is such that situational variables cause specific outcomes, which in turn, lead to job involvement. In this model, the situational variables are specified as "job scope" and "dealing with others", which influence both job satisfaction and rewards expectancy (seen as situational outcomes, which in turn lead to job involvement - 1981 : 42). Champoux (1981) analyses three theoretical streams of the relationship between various roles in the individual's role-set and the situational variables that impinge upon his attitudinal behaviour - his involvement. The three are firstly compensation (in which insufficient rewards on one role push the individual to search for compensation in other roles within his role-set); The second is the Spillover model (where one has insufficient rewards or is dissatisfied in one role, shall feel the same feeling in the other roles of his role-set); and the third, is the Non-linkage model (which finds no connection between satisfaction from one role and the others in his role-set). To date, no conclusive research work shows which is the most valid model. However, there is a wide agreement that the broad social environment and situation have a concrete influence upon the attitudes (behavioural - that is) of each individual in every role he fulfils (see Hage 1980 : 294). This is the theoretical basis for the assumptions which practices of "work participation" models draw heavily upon (Dickson, 1981., Passmore and Friedlander, 1982).

Evans (1977) - who shows the relationship between alienation or commitment with organisational structure and hierarchy - claims that the organisational structure is a direct derivative of its size and the bigger it is, the less committed are its employees. This fits very well into general organisational theory, claiming that structural characteristics of the organisation must be well adjusted to the demands of environment and technology (Angle and Perry, 1982 : 2). Broedling (1973) has found that people's perceptions of their environmental influences do have an effect on their behaviour (1973 : 69). Wanous (1974) has found that individual differences enable one to distinguish between various job attitudes and behaviour. A much more surprising finding is mentioned by Johnston (1974) that within one organisation it is possible to find more than one organisational climate, environment and managerial practice, for the main element is the employee's judgement and perception of his or her situation.

The environment which surrounds the job and the organisation has an unquestionable impact on the employee's behaviour. We shall have to try and depict the special environment which surrounds and impinges upon the merchant marine officer's job, work and shipping company. ... "As increasing emphasis is placed on (the health) sciences, it is especially important to learn more about job environment and employees attitudes..." (Porter et al, 1974 : 604). We shall therefore, turn to a short description of the main factors of the merchant marine officers' environment, and later, turn to the special features of the Israeli environment within which the merchant officer lives and works.

Environment and situational influences upon the employees who are at sea have very rarely been studied in detail. Moreby (1975 : 26), mentions a few streams of social and philosophical thoughts of human behavioural analysis as influenced by the environment. Among these one can find the

ideas of the spiritual and intellectual man (Maslow, 1957); then the economic man in Marxism and Capitalism; later, one finds (Herzberg, 1966) the psychiatric healthy man or other various approaches. "At the present time", says Moreby (1975 : 26) "we are passing through the environment fashion in which people are expressing deep concern about the environment" but we can already detect "signs of this fashion giving way to a broader set of ideas and aspirations concerning the quality of life in and out of work place". The man emerging is one opposed to abuse - be it abuse of himself as an employee or as householder or as a shareholder of limited global resources. This vein of studying man is echoed by Roggema et al., (1970) who suggest that rising standards of education ashore are leading "to people becoming more selective and demanding as regards their work life resulting in a search for jobs which offer intellectual stimulation and challenge". This view is also supported by McGregor (1967) who reports that the more affluent a society becomes, the more significant do meaningful careers become to its members. It is claimed that at the present, one finds higher rates of turnover than could have been found some 30-40 years ago. The causes for this phenomenon are factors such as higher mechanisation in certain industries, or caused by people having to search for more highly paid jobs during this period of inflation, or the manifestation of the search by people for more and higher satisfaction and satisfying jobs and careers. Moreby (1975 : 26-27) concludes with two examples related to the merchant officer's work as it is influenced by environment and job situation as well. Modern education finds it useful to stress the development of human nature by teaching students to work in teams and join into projects of common efforts in problem-solving. This has already had its influence and results in shore-based industries whereas at sea, the watch keeping officer (whether of deck or radio or engine departments), must endure the pressure of solitude 8 hours a day, day after day, for months. If we add to this situation the technological and technical changes on board the ships,



which are more sophisticated and allow for fewer people to achieve higher productivity, we are confronted with the more stressing situation in which the lonely watch officer is put. This is a fruitful ground by which greater numbers of officers on board are deprived from their task of decision making, which is transformed to machine automated decision making on the one hand and on the other, transferred to shore management people. These shore management people are also aided by rapid communication devices and modern telecommunications systems. This, of course, is in contrast with the needs manifested by seamen who wish to participate to a greater extent and be more independent in their life style. This is also against the "macho" characteristic that is attached to the seafarer who is believed, according to it, to be a self supporting creature. He is now stripped of his prerogatives physically, mentally and psychologically by the shipping company managements. The Master of the ship is now more confused and dependent not only upon shore management people, but as Herbst (1968) or Kahn et al., (1964) claim, when rapid technological changes occur, in shipping as well as in shore based industries, the professional is dependent on the expertise of others and their special knowledge which is their most guarded social asset and is kept as a personal secret. This is why ships' Masters are now more and more dependent on their chief engineers, or their radio officers, who gain more power from this fact (who in turn are dependent on the expertise of the "automation" "electricity" "micro-processors" people...).

Another interesting result is the range of tasks and training people who sail at sea are being given and taught. (Moreby, 1975 : 28), compares past practice of only engine people who by experience and tenure were taught and instructed during their career development phases. Nowadays the diversification of the technological and scientific sophistications on

board ships demands that special skills be attained and acquired in different paths of study. One can ask whether the same extent and degree of technological changes can be found if we compare deck, radio or engine room officers jobs. The answer is probably in the negative and this, of course, is another environmental and situational factor affecting seafarers' behaviour. But this influence is most important for it is felt both horizontally between ship's departments and vertically between various ranks as well. Considering the fact that shipping companies usually own ships of different ages, one finds out very quickly how diversified situational and environmental roles are on board ships which belong to one company, among which its seafarers are transferred from one voyage to another. If we add to this complication the notion of the social atmosphere and management organisational climates, which can be as diversified as the ships' technological or age levels, the picture becomes much more complicated. We can add to this picture the comparison (Moreby, 1975 : 28) between the shore industries a marked decrease of paternalism, "for modern workers believe that their employing companies should not try to control their off-duty activities", while at sea, we "see quite the reverse, for in an attempt to retain seafarers, owners of 'unattractive ships' are giving their seafarers more fringe benefits."

It is in a way, worth while to quote a paragraph from B.O.T., (1970), (from Moreby (1975 : 47)), "So far as stated needs, priorities and attitudes are concerned, there are no such persons as 'seafarers'. There are deck officers, engine officers, deck engine and catering ratings each group of which differs markedly from the others". Moreby concludes (1975 : 47) that the "one and only factor common to all seafarers, is that at the one point of time they made the common decision to leave home for a different way of life." The real differences between deck and engine officers are mentioned by Moreby (1975 : 52). When comparing between these two company departments,

we feel that no matter what difference is traced, most of the differences are caused by environmental or more specifically, by situational factors and variables.

Another environmental factor influencing the seafarer's occupational behaviour is introduced by Fricke (1973) who explains that the "seafarer rarely works alone" - although, at sea "for economic reasons, he works and lives with others" (1973 : 1). These relationships are the prior condition of an occupational community. Maciver (1924) defines community as "a focus of social life, and the association" is "an organisation of social life established for the pursuit of one or more common interests". This is also an important variable which must be included in the analysis of the social atmosphere surrounding seafarers, when at home or on shore leave between voyages. "There is a close knit seafaring reliant community ashore which has affected the attitudes of seafarers to their occupation" (Fricke, 1973 : 2). In the training and career pattern of the occupational skills and knowledge, there is a difference of evaluation among deck and engine cadets. According to Hopwood (1973 : 97), engine people aboard ship, have the better opportunity of finding a job ashore, whereas the deck people, with their training, were not seen to have any real worth apart from a direct application to a sea career. Fricke (1973 : 133) himself reminds us of this problem on a more general level when he speaks about the family factor as influencing the seafarers' life. He claims that, although he accepts the point that the deck officer cannot easily transfer his skills to a shore job, it is not the influence of the family which affects the career of a seaman; rather the key issues are whether the seaman could obtain, keep and enjoy work ashore. He nevertheless, brings one more difference between the environment of the deck and engine officers' socio-economic origin and status of spouse, and even the fact that there are differences between women's work activity both before and after the marriage (Fricke,

1973 : 137). The difference claimed is not between women and their officer husbands, rather between women whose husbands are deck or engine officers. The conclusion we arrive at, from his data, is that the socio-economic origins and the social milieu of the two groups of officers are also different. Fricke (1973 : 140) says that : "The engineer officer's wife interacts with her neighbours to a larger extent than the deck officer's wife. The latter interacts more with friends who are not neighbours and who travel some distance to visit". He therefore concludes, while giving different definitions for the two sorts of officers, that "as a result, the engineer's wife is embedded in the structure of her community to a greater extent than the white-collar deck officer's wife". He also finds the reasoning for matrilocal residence choices, especially among the career officers. This must have its influences upon officers' occupational behaviour, when at work (Fricke, 1973 : 146). He arrives also at another conclusion, that because of this pattern of housing and family support there should be also some distinct differences in stress and conflict that deck and engine officers undergo, when leaving their families, and when at sea. These differences are phrased very clearly in Hill's work (1974 : 41), "Many different types of men go to sea. Seafarers are not only inherently different from each other, but the forces impinging on them differ according to chance circumstances and more systematically according to their department and rank".

## 1.5 CONCLUSION

On the basis of March and Simon's approach (1958) towards employees' attitudinal behaviour of either commitment or withdrawal, two streams of theoretical thought have been detected. The one, trying to understand and explain quitting behaviour by investigating its antecedents and causes, theoretically and empirically, and by constructing a framework of a processional model. This model should explain and enable the prediction of employees' behaviour. The other, draws on the construct of commitment and strives to achieve similar aims, although in the opposite direction of employees' behaviour.

In this chapter developmental similarities have been demonstrated between these two scholastic traditions. To date, the works of Bluedorn (1977, 1978, 1980, 1982, a,b,c) and others, are striving to unify these two veins, both analytically and empirically. This phase, in which most of the partial models are mapped into one interdisciplinary model of attitudinal and intentional behavioural causality, includes some unsolved problems. These problems have been raised and relate to the Merchant Marine Officers' occupational behaviour, whereas until now the analysis of seafaring has been drawn from a general perspective, it is believed that closer acquaintance with the merchant marine industry and the occupational reality is necessary. This, therefore, is the aim of the following chapter, after which, we could construct the formal structure of the preferred model together with the propositions and hypotheses it includes.

## CHAPTER TWO - THE ISRAELI MARINE INDUSTRY : INSTITUTIONAL DEVELOPMENT

### 2.1 Introduction

Historically, the development of the shipping industry in Israel can be viewed as going through four different phases within a period of about 50 years. The differences between these four phases lie in the sociological importance and meaning attached to this institution in its participation in the building and functioning of the Israeli State. The transition from one phase to the following is in many ways similar to a pattern known to exist in many traditional maritime societies, and to developing countries as well. In each country, these phases have their special weight and impact.

The first period, is that of a shipping industry, the main function of which is the transportation of people and goods, gathered in a new geographical area where a nation and a society are founded and built. In Israel, it is the "Pre-State" period in which the best, the most dedicated, idealistic manpower and human assets are set to transport immigrants to the "then called" Palestine, under the British Mandate (and many a time against the law). Eisenstadt (1967 : 17) in describing the second "Aliya" (immigration) period, stresses the "future orientations" of that period, which had a tremendous influence on later Jewish immigration streams, by its concentrating on the notions of developing pioneering groups the main functions of which, were that they be used in later years as seeds and centres of national institutions to come. These groups of members were prepared to become and act as the entrepreneurial elitistic groups, and therefore were given proper social esteem, power and assets, as well as ascribed with special socially accepted symbols.

These were planned and also organised, due to the lack of clientele, according to pure ideological settings. One centre of this kind was the shipping institution. The men involved in the merchant shipping service

at that time were dedicated to a common social cause, and most of them were potentially capable of becoming part of an elite in other institutional settings, had they existed then. Since the British professional advancement pattern in the shipping occupational career at that period demanded that seafarers should become officers after being cadets, these members had only been able to start as ratings (for most of them were not able to start as cadets), and the subsequent result was that almost all Israeli seamen advanced along this pattern, with many of them having British certificates of competency (some of whom even took their examinations in India, during the second world war). In later years, these became the masters and chief engineers aboard Israeli merchant ships, but due to the low number of jobs available, many of these seafarers had to sail as ratings, although they had officers ranks. It was a homogeneous elitist population in which the differences between the Able Seaman (A.B.) and his Master Mariner stemmed from seniority in time and practice, rather than social-economic background or social status, inclination or acceptance of central social normative rules and aims, as prescribed by the central organisational social elitist leadership.

In the second phase, during and after the State was founded, when fighting for independence had terminated, most of these seafarers, mentioned earlier, were running the ships as officers or the shipping companies ashore in management or in supervisory jobs. During this phase, a most interesting process and phenomenon occurred. The new society offered new channels of social status hierarchies and advancement owing to the impact of building new institutions and organisations - in these the seafarers could find their proper places, as befitted their experiences and inclination. The new allocation of social assets such as power, prestige and status in the newly organised social order, drew out the best of these seafarers, and the

vacant shipping posts were filled by a population much lower in character and social potentials. The new seamen in the craft were mostly new immigrants, "who did not know Joseph", and were not familiar with the past normative systems and dedication of the social power and assets to a central common cause. For them, it was another "new" way of economic activity by which they should earn their living. (It is quite interesting to note that since the infant State was short of economic assets, these seafarers were given formal permission to import merchandise and sell it on the free market - such as potatoes, garlic, beef and the like). In this second period the shipping industry became characterised as one which had lost most of the social importance attached to it earlier. Those who were now ratings aboard ships were hardly capable of becoming officers in due time as before. Seamen were now either officers or ratings, both of whom differed in social economic background and characteristics. From the institutional point of view, shipping is but one amongst other more or less esteemed industries, functioning for the existence of the entire society and State. What is more important, is that since the unique history of the State at this period can be seen as giving social primacy to the army and agriculture, and to the shore based industries - shipping is left alone in its economic struggle (there is even an obvious tendency by the police, to allow some of the "socially disintegrated" to join up and become seafarers). Both large and small shipping companies were competing in the international shipping markets, none of which had yet really become a leading shipping company. At this point of time, then, we are confronted with a situation which by its nature, contradicts 'sustained growth' as expected by the elitist manpower element that had chosen to remain in the industry. There is no allocation of free, uncommitted economic assets, no new symbolic and normative system that includes shipping and gives it its proper place, no potential social power that really counts for the central social bureaucratic system, nor can it be given any more relative



importance when there is very intensive activity to build the major human values and morals, on agriculture, security and prevention of illiteracy with enormous efforts to create a Nationalistic Democratic State.. During this period, the traditional elites - although differences are found very easily between them - are first of all trying to institutionalize themselves in a society which includes a majority of immigrants. There just is no time for shipping and seafarers in this period. (It is therefore this general picture, within which one should understand the seafarers' strikes and struggles during the early fifties).

The third period began in the sixties, and lasted some ten years. The State of Israel was compensated financially by Germany, and geo-political reasoning accompanied with security measures brought the State to invest large sums of hard currency in the shipping industry (although one could also argue that this development was caused more because of the needs to strengthen transportation lines, so important for other shore industries, which then began to seek for international markets). This was accomplished by supporting and building a leading national shipping company (Zim.Co.,) which got modern ships built by German ship yards. During the mid-sixties, the State even became a financial partner in this "Zim Co. Ltd." Yet from the institutional point of view, although the financial support and State investments were given to shipping, still the social reality was that lower and lower human assets were channelled to seafaring. More importantly, the social power, esteem and status, allocated by society were now directed toward employees in other institutions. The discrepancy between the modernisation of the shipping technology and the institutional development, and consequently with the human factor was widened. The best of men simply did not come into merchant shipping. The young people who were the second generation of the previous elitist population who, during the pre-state social reality were the leading normative stream (in spite of their small

numbers) went now for the regular army careers or agriculture development, and only a few entered the hardly known shipping institution. Another typical phenomenon, was that since the shipping industry was subsidised by the government which was pre-occupied with other more important problems of survival, nobody did anything to prepare suitable skilled and properly trained manpower to run the modern ships; the human element was totally neglected.

When this phase ended at the beginning of the seventies, one finds the industry struggling with various degrees of economic success, while the State's interest in shipping was fading or non-existent. Zim Co., the national leading shipping company, successfully utilised modern ships by manning vacant posts with foreigners - as other shipping companies did - to become an international leading container company. At the same time, another well known Israeli refrigerated cargo shipping company collapsed for financial and economic reasons. Shipping is an industry, as one finds in any country, vulnerable to international economic trends. Again, from the institutional point of view, it craves for national support and for State protection, but gets little or none. It suffers as do all shipping companies world-wide from the attraction of other shore based professions and occupations, causing the gifted human assets to leave or even to refrain from becoming seamen. The problems are now how to reduce turnover (see Table 2.1) or strengthen commitment of those who do go to sea. This, in order to lower the cost of recruiting, hiring and educating new people, so that most of the economic power is directed to international struggles for survival with less internal organisational pressures.

Table No. 2.1

Annual Active Registered Seamen, Quits and New Entrants, Ratings & Officers - 1964/1974

Year	Ratings			Officers			Officers	
	Active	Quits	New Smn.	Active	Quits	New Smn.	Engine Quits	Deck Quits
1964	2657	269	1343	2986	184	1200	85	99
1965	2604	759	726	2825	288	604	75	213
1966	2524	834	711	3012	335	735	124	211
1967	2266	729	411	2620	529	411	264	265
1968	1870	833	536	2437	479	384	192	287
1969	1925	501	505	2492	436	488	228	208
1970	1648	772	477	2325	517	469	256	261
1971	1885	445	523	2559	496	404	227	268
1972	1746	551	261	2493	591	350	285	296
1973	1704	442	302	2387	632	454	227	396
1974	1567	547	119	2268	772	475	316	456

Source : Senior Merchant Marine Manpower Planner. Shipping and Ports Administration, Ministry of Transport, Haifa

- (1) "Active" - active seamen, those having sailed aboard a ship for at least one day in a given year
- (2) "Quits" - the given year is the last these are "active" until year of computer report (1976)
- (3) "New Smn." - "active" ones, in their first year of either sea activity, or first year sailing in present rank.

## 2.2 MERCHANT MARINE MANPOWER - POLICY, INSTITUTIONS AND ENVIRONMENT

In pursuit of describing the organisational climate of the Israeli Merchant Marine Manpower, we can draw on the conclusions of Schneider and Synder (1975), who found that (a) Climate and satisfaction measures are correlated for people in some positions but not for others, and (b) People agree more on the climate of their (agency) place of employment than they do on their satisfaction. A general feeling of consensus was found in reviews with the research population with regard to the climate and environment, as reported later. The picture that describes the Israeli shipping institution is one, which is to a very close resemblance with what is called "a lazy monopoly" (Seidler, 1979). Adapted from Hirschman (1970) it is a complex model which incorporates aspects of environment, leadership, exiting and feedback from exiting. The criteria for applying this concept (Hirschman, 1970 : 57-75), when generalised, are : (a) The organisation is virtually a monopoly - (control over resource or product). (b) Executives are slow to improve the quality of product, policies or the structure of the organisation. (c) Executives, rather than improving quality, prefer to lose clients or personnel who exercise voice (criticism). (d) They welcome opportunities for critics to exit, often via limited competition. (e) These opportunities allow the continuation of status quo policies or mediocre leadership, as a loss of critics reduces the pressures for change and usually leaves the remnant on the conservative or uninvolved side. The results of such activity and its outcomes are described as follows (Hirschman, 1970 : 57) :

"... The monopolist sets a high price for his product, not to mass super-profits, but because he is unable to keep his costs down : or more typically, he allows the quality of the product or service he sells to deteriorate without giving any pecuniary advantage in the process".

As Seidler (1979 : 774) describes it, the strategy of lazy monopolies apparently consists of developing a product that is adequate for most clients, consumers or members, but not equal to the standards of their most quality - conscious customers or personnel.

Although it is a mission in itself, let us try to see these characteristics of lazy monopoly as they exist in the Israeli shipping institution. These characteristics draw on the introductory paragraphs of this chapter and when analysed carefully one by one, the first immediate conclusion is that the shipping industry in Israel is in many ways doomed to prove the prophecy that stems from the analysis included in the "Breakdown of Modernization" mentioned there.

In 1976, Goldberg et al, conducted research based upon interviewing some sixty or seventy key individuals in the Israeli merchant shipping institution, private, public, government and union leaders. Their conclusions lead us to accept the definition of the 'lazy monopoly' as applicable to the Israeli shipping institutional climate and environment.

Goldberg et al., (1976 : 104) conclude that contrary to the established facts of actual professional and economic success, "Israelis do not believe that their country has the ability to become an important shipping country ..... In office after office, surveyed, ... the opinion was expressed, that shipping is just not a Jewish business. The normative social evaluation needed for sustained growth is therefore practically non-existent. This is contrary to shipping success of figures such as Brener and Meridor, Recanati, Ofer, Rosenfeld, Johananoff, and Zim Co. International maritime interests". Again, from the National Policy making point of view, (op. cit. 106), "There is no one governmental office responsible for developing and

co-ordinating a national shipping policy". And (p.107), "Local legislation especially financial, is not fully applicable to the shipping industry". "The Ministry of Commerce and Industry, lacks the expertise for assisting in the development of a strong shipping industry". "Few incentives exist for Israeli registered shipping companies to place their ships under the Israeli flag" (op. cit., : 108). "Governmental offices lack the expertise for dealing with companies that operate overseas" (op. cit. : 109). "Little effort is directed to developing services for an international shipping industry" (op. cit., 111). "The seamen's unions take little part in preparing new seamen" (op. cit. : 114). These findings actually show the lack of integration, social assets allocation, absence of entrepreneurial modernising adaptable esteemed and communicating institutional elite. And, therefore, again it fits in to the opposite of the "sustained growth's needs and principles mentioned earlier.

Under such conditions the shipping industry is free to act as a monopoly, holding full control over the manpower factor. The shipping companies do not make the efforts to prepare new seamen to fit the number of jobs on board ships. This is revealed when considering data of manning the jobs of officers or ratings alike (See Table 2.2). The natural preference is to fill the vacant posts with foreigners(who typically cost less than the Israelis). The Union's leaders (officers and ratings alike) claim that they have proof for the opposite, namely that the foreigners cost more than the Israelis. The consistent disagreement in such matters is not only a sign of lack of communication, but of deep distrust among the two parties.

Table No. 2.2

Manning Officers' Jobs by Nationality 1963-1977 Aboard Ships Under Supervision

Year	Total No. of Jobs	Israeli Officers	% of foreign Officers
1963	812	549	32.4
1964	964	599	37.9
1965	1115	678	39.2
1966	1099	686	37.6
1967	1155	729	36.9
1969	1086	587	45.9
1970	1087	586	46.1
1971	1136	578	49.3
1972	1072	621	42.1
1973	1016	684	32.7
1974	933	668	28.4
1975	917	680	25.8
1976	807	634	21.4
1977	883	653	26.0

Source : Senior Merchant Marine Manpower Planner. Shipping and Ports Administration. Ministry of Defence. Haifa (Based on Ships' Crew Lists)

As we can see in Fig. 2.2, although the number of jobs has changed during the period 1963-1977, what is closely related to it is the annual percent of foreigners holding officers jobs in the fleet, and less is the number of Israeli officers. Avi-Itzhak (1976) finds good practical reasons for this trend, in that not only is it worthwhile to hire foreigners because their wages are lower than the Israelis', but also because these are institutionally and organisationally-used-to-cover-the-shortages-of-adequate-amounts-of

Israeli officers, especially when the training period for an officer - qualified to "take a watch" is between two to three years (the foreigners are the first to be fired when the volume of ships and posts is reduced). This provides more occupational safety for the Israelis who can be retained more easily (1976 : 7-8). What this reasoning neglects, is the point that due to continuation of such a policy, of (a) no interference, and (b) allowing to hire foreigners, the main logical result is neglect of developing an adequate size of Israeli officers' corps, for at least replacing the quits. The almost total independence of the shipping companies in hiring foreign officers, gives these companies a considerable institutional power against seafarers' unions and enables them to become a lazy monopoly. It is proper to note here that at the beginning there was only one united seafarers' union, but because of power struggles and prestige, there had been a split into two Unions, that of officers and that of ratings. During 1974-6 their increasing power struggle was very significant in the handling of the industry. The shipping companies bought industrial peace by payments to both unions in surrendering to their prestigious so-called professional demands and neglected to find ways and means to re-unite them into one organisational body.

The second factor describing the lazy monopoly is that the executives are slow in improving the quality of the product, policies or the structure of the organisation. It is shown - by Avi-Ytzhak (1976 : 10) that during the ten years, 1966-1976, Israeli ships were on the average, older, and few new ones were introduced. Because of long range periods of credit, the tendency now is to use chartered ships instead of owned ships. This leads to slowing down of the development of the national fleet. Economically speaking, "Fruit Carrier" - the refrigerated cargo company, and the passenger ships are liquidated (1975/6), which adds up to the stagflation when manpower is concerned - for there is a good excuse for not trying to



Table No. 2.3

Manning Officers' Jobs on Board Israeli Ships. Average Numbers of Jobs for 1975/6, by Flat, Nationality, Company, and Seamen Department

	Grand Total			Israeli Flag			Foreign Flag		
	Total No. of Jobs	Israeli seamen	Foreign seamen	Total No. of Jobs	Israeli seamen	Foreign seamen	Total No. of Jobs	Israeli seamen	Foreign seamen
<u>Total in all Shipping Co.</u>	933	688	26.6%	563	454	19.4%	370	234	36.8%
Deck Officers	345	286	17.1%	205	181	11.7%	140	105	25.0%
Radio Officers	84	75	10.7%	52	49	5.8%	32	26	18.8%
Engine Officers	504	327	35.1%	306	224	26.8%	198	100	49.5%
<u>Zim Co. Total</u>	570	432	24.2%	345	288	16.5%	225	144	36.0%
Deck Officers	213	178	16.4%	129	116	10.1%	84	62	26.2%
Radio Officers	52	45	13.5%	32	31	3.1%	20	14	30.0%
Engine Officers	305	209	31.5%	184	141	23.4%	121	68	43.8%
<u>El-Yam Co. I.</u>	86	62	27.9%	44	33	25.0%	42	29	31.0%
Deck Officers	31	26	16.1%	16	15	6.3%	15	11	26.7%
Radio Officers	8	8	-	4	4	-	4	4	-
Engine Officers	47	28	40.4%	24	14	41.7%	23	14	39.1%
<u>Others Total</u>	277	194	30.0%	174	133	23.6%	103	61	40.8%
Deck Officers	101	82	18.8%	60	50	16.7%	41	32	22.0%
Radio Officers	24	22	8.3%	16	14	12.5%	8	8	-
Engine Officers	152	90	40.8%	98	69	29.6%	54	21	61.1%

Source : Senior Merchant Marine Manpower Planner and Information Systems. Shipping & Ports Administration Ministry of Transport, Haifa (Based on Quarterly Statistics of Ships' Crew Lists).

develop new manpower, they exist and search for jobs. As strange as it sounds, Avi-Ytzhak (1976 : 15) recommends to augment the number of chartered ships, or the hiring of foreign flag Israeli owned ships (flag of convenience) - aboard which jobs are manned more easily by foreigners. The result of course, is the standstill of renewing the ships under the Israeli flag, which leads to an indifference towards the Israeli manpower. This rather fits with the third characteristic of the lazy monopoly, which says that executives prefer to lose clients or personnel rather than improve quality. Because of the above mentioned recommendation, we can understand why the tendency to enter the international shipping by either flag of convenience or chartering, causes, in the long run, an almost complete differentiation and the division between Israeli ships sailing under the national flag and the other under foreign flag- which very easily use the "security excuse" for that flag of convenience. Israeli manpower is also treated in the same way and the shipping companies agree very easily with increasing turnover on the one hand, and on the other, these companies allow for the deterioration of their relationships with the two seafarers' unions. It is a common practice to buy peaceful labour relations and give in to unions' demands, because of the interests in the international markets of shipping. It is therefore obvious why fewer Israeli officers occupy jobs aboard ships under foreign flags and why the Israeli flag ships have fewer foreign officers on board (See Table No. 2.3). Illustrative of this fact is the number of lost labour days because of strikes, symptomatic of the system of labour relations (Avi-Ytzhak, 1976 : 191). Within the period 1965-1972 (eight years), only 1101 days were lost. Whereas within three years only (The Israeli Shipping, 1976 : 39) during 1973-1975 some 8524 days were lost. This is an illustrating feature which fits in very well with the fourth and fifth element, that are characteristic of the lazy monopoly.

We are, therefore, able to distinguish between three types of Israeli shipping companies, according to the rate of foreign seamen employed by them (See Table No. 2.4), and (accordingly), their ownership.

Table No. 2.4

Percentage of Foreigners (all ranks) aboard Ships : by Company and Years

	11/1971	9/1972	(@)1973	(@)1974	(@)1975	12/1976
Percent of Foreigners in total	44.1	37.5	36.9	23.3	19.2	22.0
Zim Co.Ltd	30.7	26.3	27.4	21.6	20.2	17.1
El-Yam Co.	63.4	56.5	49.0	41.4	23.0	18.4
All Others	68.8	60.7	52.9	52.9	48.9	48.4

Source : Senior Merchant Marine Manpower Planner, Shipping and Ports Administration. Ministry of Transport, Haifa (Based on Ships' Crew Lists)

(@) Annual average (based on 4 quarterly reports)

Analysis of the data presented above (see similar data for the years 1976-1984 in Appendix No. 'a'), should illustrate the descriptive comments, and conclusions of both Goldberg et al., (1976) and Avi-Ytzhak (1976), and sustain the deepening feeling that the Israeli shipping industry treats its seafarers in general, and the officers in particular, as described by the term lazy monopoly (Hirschman, 1970). Although one may agree with this approach, one should also accept the differences among the shipping companies as analytically described by Moreby (1983 : 25). According to that approach, it is possible to claim that Zim Co. Ltd. falls into the category of the "National Shipping Company", El-Yam Co. falls into the Risk averse category and most of the other Israeli shipping companies belong

to the Risk prone category - (but definitely not all other shipping companies must be risk prone to the same extent - although a theoretical definition and operational measure still remains to be phrased). The leading companies of this group are the Israeli branches of international operating companies such as The Ofer Bros. (London-S. Ofer), Rosenfeld (Rotterdam) and Johannoff (Amsterdam). These tend to neglect the Israeli branches, even to a complete or partial separation. Their Israeli branches are usually managed by independent relatives and more closer to the risk prone kind - where the Israeli manpower is to various degrees neglected, because the buying and selling of ships is a daily practice, and this group needs the manning only for short or fluctuated volumes and periods of time. It is thus, most convenient to be free of binding ties with Israeli seamen and their two unions (ratings and officers unions), (Avi-Ytzhak, 1976 : 92). The main advantage of managing these companies from European shipping centres, is the close relations with the international financial centres, and the ability to overcome local (Israeli) tax regulations and currency restrictions. They also tend to lease or charter their ships to others or to do business with alien countries. If only because of this fact, these should belong to the risk prone group. These, of course, should be dealt with very cautiously, for their Israeli branches (in 1976) are independent bodies, although hidden ties must connect them with their European main and usually larger bodies (not included in our study, of course). We shall expect, therefore, that even without defining these three categories, differences of attitudes toward manpower be found amongst them, and as a result, among their officers' attitudes and behaviour, at least, because of the differences in policy and management style, which materialise in organisational climate, situational and work environment.

## 2.3 CONCLUSION

In this chapter we approached the Israeli Shipping Institution through its various developmental stages, up to a short description of the situation during the mid-eighties. In a way, this description is incomplete, for the question which remains now is, whether this institution has succeeded in becoming truly institutionalised in the new born Nation. It has been shown that the Israeli shipping has developed from an illegal transportation activity, into a dozen or so competing shipping companies operating mostly as risk prone organisations while building the Nation, and obtaining financial compensation from Germany enabled one of them to not only become a "National shipping company", but to develop into a shipping company with worldwide interests. This was possible because free financial assets newly introduced into the industry, had not yet been committed to any other traditional economic body. However, beside the allocation of these financial assets, the general public interest withdrew very quickly from the shipping, and no new structure of value system, nor crystallisation of wide social esteem using communication media, had occurred. The central governmental interests faded very quickly, after allocating the money to Zim. Co., leaving the industry to its own private entrepreneurs and their economic activity. This enabled the seafarers' union to split into two competing organisational bodies, each claiming better work conditions, mainly for better income, while no central activity was taken to unify the industry. Only in 1974 (some 25 years since the State had been declared), was the Seamen's Law formally enacted. It took some ten years to prepare it, but in 1975/6 the law and some of its regulations were still new, practically unknown to the industry, and enforced to a relatively small extent. This, because the industry continued in many ways to behave according to the rules of "good seamanship", learnt by those who remained in the business since the period under the British Mandate. It is, therefore, clear that the term "Lazy monopoly" is quite properly attached to the general manpower

policy and management habits in the industry, which, as suggested by Moreby, can be divided into three types of managerial styles.

## CHAPTER THREE

### CONCEPTUAL FRAMEWORK AND PROPOSITIONS : A REORGANISED THEORETICAL MODEL

#### 3.1 Introduction

Up to this point, we have covered two general topics. The first was the sociological and psychological theoretical and empirical approaches toward commitment and quitting behavioural modes by employees. The second topic was the seafaring occupation, its unique characteristics, the organisational institutional environment in general and in the Israeli institutional shipping environment in particular. It is, therefore, appropriate to go into the formalization of our proposed theoretical model; the propositions and hypotheses included within its structure. We shall, therefore, summarize the theoretical conclusions and enter into the proposed model afterwards.

Although various theories and empirical approaches were simultaneously used for the analysis of both turnover and commitment, one can combine and unify different and/or complementary theories under one umbrella. It is believed that this tactic is worthy of repetition and also a new method will be attempted in order to sustain this line of theoretical analysis. We have already found that, a general agreement could be attained as to the definition, description and causes of turnover and, on the other hand, the same kind of agreement could be found as to the general definitions and description of commitment, as well as its antecedents. Assuming that these two can be put into one inclusive operational research tool they are, therefore, intrinsically to be treated as two poles of a single continuum. Together they create a new variable which has mutual antecedents. These antecedents can also be considered as causes of the continuum of the variable.

It was shown that both constructs have been investigated by authors who use similar definitions based upon mutual theoretical bases and from which they arrive at similar conclusions. In a way, we claim, that not only are the various theories complementary, but that the dependent variables have the same properties. Drawing on the pioneering model of Simon and March (1958), sociologists as well as psychologists have followed the paradigm of the "human needs and attitudes" or "decision making behaviours", which aim at maximising returns of social investments, coupled with trying to overcome or minimise conflicts and social obstacles of the environment and in the situation and unfavourable work climate. This effort involves the expectation that by so doing, obstacles could be prevented or weakened to the extent to which they could not disturb achievement of needs and wants, or personal wishes and dreams. There are two elements that all the various theories draw upon, with different levels of dependency, and elaboration. The first is the theoretical connection between behaviour and attitudinal intentions; the other is the need and necessity to use and evaluate information with regard to the feasibility of prospects of actual or expected situations, by which the individual expects to maximise returns and revenue from investing his less necessary assets - power, prestige, emotions and his concrete assets such as time, money of effort and the like. This latter element has not been given its proper weight in the present analysis for it is assumed implicitly in most theories up to now, and indeed only a few do pay attention to it by inserting the feedback elements - mostly from work conditions and satisfaction. The cybernetics theoretical thinking of weighing the expected returns from social activity should, as we shall try to show later, be given its relative importance in the explicit theory.



### 3.2 THE FRAME OF ANALYSIS : A RECONSTRUCTION OF THE THEORETICAL MODEL

As a result of the review brought in the previous chapter, we have arrived at various theoretical and empirical conclusions. These are of three groups. The first is derived from the unique features of the seafarers' world, style of living and mode of participation in cycles of occupational events. The second group is drawn on the basis of the complementary theories that deal with either commitment or turnover. The third group is derived from the special characteristics of the institutional and professional managerial climate and environment within which the Israeli merchant marine manpower operates. A result of these three groups is hoped to lead us to a constructed model, which must include theoretical definitions from which we are to extract our hypotheses and the empirical definitions which we should use for its proofs. Since the present work was originally aimed at studying the Israeli merchant marine officers' commitment behaviour, we shall minimize the weight of many particular hypotheses and shall try to assess the validity of the general thoughts and ideas that cause the special structure of the suggested model.

We have found that many researchers have studied turnover. Allport (1954) brings the basic notion of cycles of events within the frame of time and sets up two elements (that of boundaries of the social system, and that of decision) to move towards the inner circles where the cycles of events occur (the closer to the centre, the more intense are the events), (as E. Shils (1975) hints in his classic work "Center and Periphery"), or toward the outer boundaries where one wishes to decrease personal involvement in these events. From this approach we conclude that withdrawal - voluntary withdrawal, that is - is the reduction of the proportion of an individual's personality that intersects with a particular event cycle. This is the basic reason for his need to use the definition of quitting or

leaving as a specific observable manifestation of the intersection being reduced. Included in this definition therefore, is the notion of the opposite movement; the commitment. Although neither economists nor non-economists have studied commitment and participation (Price and Bluedorn, 1980 : 120), we have shown that the social psychologist's treatment of commitment does not take a different stand point and, as a result, the notion of two polar constructs of one continuum is permissible, provided we use the definition phrased by Price (1977).

Definition of TURNOVER; (as a social organisational phenomenon), or of QUITTING, (as an individual's manifestation of behaviour), is that which poses the employee in the centre, and claims that his behaviour is the degree of movement across the membership boundaries of the social system, where the direction of movement is towards the outside of the system. The definition of COMMITMENT is just the same, but the movement is in the opposite direction where the aim is the augmentation and strengthening of the intersection between the individual and the social system's cycle of events.

Included in all the research works that we have reviewed, is the notion of exchange relationships between the employee and his employer; when the parties aim at the maximization of their returns from investments they have put into their mutually agreed upon relationships. This is the basic theoretical paradigm upon which almost all various works justify the degree of satisfaction which the employee gains as a result of his work and investments. Two intervening variables are proposed to be found, which cause various degrees of employee's satisfaction. One is the employee's rank (which also means his social status) and, as a result, his rewards from his investments. The other is the exogeneous social systems and

social roles within his role-set, influenced by his primary or secondary social groups and his alternative occupational choices open to him in the labour market. This is also found in the literature, and is called OPPORTUNITIES, by (Price,1977) and as modified by Bluedorn (1982).

The direct result from the level of satisfaction is the employee's collection of intentions to become more involved and committed to his job, work, employer or social system or the reverse, namely the intentions to quit, leave his job, occupation, employer. Here, in our special case of seafarers, we should be able to distinguish between intentions to advance in one's rank or to transfer from one ship of a certain level of modernization, or from one route to another : for example, to transfer from steam to diesel engines, or from tanker to general cargo ships, or from voyages destined to Northern Europe to those routed to the Far East. However, a seafarer can also wish to quit his shipping company and transfer to another, or even to leave the sea entirely and work in a shore-based profession or organisation. As recommended, the intentions can be used as our dependent variable, for we expect to find a significant relationship between intentions and actual behaviour. Here, also, we propose that two intervening variables should be found as influencing this relationship; we wish to find the employee's level or amount of returns from his investments, as compared with potential alternative rewards in other social roles or role-sets opened to him, whether already included in his present role-set (family ties and primary or secondary groups' relations), or whether in prospective alternative jobs available on the labour market. Here we expect to find a significant influence of the organisational institutional environmental climate. As already hinted, this set of influences, are dependent on the level of information the employee has or even thinks he has.

The final stage of the process is, as found in the reviewed literature,

the committed decision to quit or to become more involved and more committed to one's job, work or employing organisation. However, this component of the process includes a problematic element which, again, is influenced by the same two intervening variables, namely a seaman's social role set on the one hand and, on the other, his potential alternative jobs in the shore labour market. Here, in order that one could claim that the described process is not only of one directional path of events (rather it is a cycle of events where the employee after having decided his specific decision, either quits or remains in his present job) we can distinguish between these alternative possibilities by use of a dichotomy. The one axis is that of the level of commitment, the positive decision is to become highly involved and the negative is to quit, and to take all necessary measures toward such a step, including job search and the like. The other axis is the intervening variable of alternative prospects opened to the employee in question, namely the labour market alternative prospects. From such a dichotomy we arrive at four potential groups of employees. Those who are highly involved, and who (a) have many feasible labour market alternatives, and (b) have few or none, or that their alternatives are not feasible at the present. The other two groups are of (c) those who have decided to quit and already have at least one feasible alternative, and (d) those who are willing to quit but however determined they are, their prospects of finding another job or other jobs in the labour market are poor and, until they do find their feasible alternative job, they remain in the present job : these are the dissatisfied stayers.

In the present work we shall refrain from operationalisation of the last dichotomy which deserves a study solely dedicated to it. However, we shall concentrate on the process which begins with the employee's satisfaction and his relationship to his job, occupation and rewards up to his

Table 3.1 Differentiation between workers, after a decision has been made

		LEVEL OF COMMITMENT	
		Highly involved	Actually willing to quit
LABOUR MARKET	Many alternatives and feasible jobs	Highly involved and highly committed (a)	Potential quits and/or actual leavers (c)
ALTERNATIVE PROSPECTS	Few alternatives and nonfeasible jobs	Involved, but (b) even not fully committed stayers	The (d) dissatisfied stayers

intentions to quit or remain, and his actual job searching and its result: actual leaving or actual commitment and remaining in his job and occupation. What is of importance in this work, is the influence of work environment and organisational climate. We wish to show that intentions to quit or remain are very much influenced by the two intervening variables, as they occur in the special Israeli maritime institutional environment. We propose, contrary to Bluedorn (1982 : 90) that the intervening variables are related to intentions and not only to satisfaction and to actual turnover. We propose that a seafarer's rank as an officer, the department in which he is employed, and the shipping company have strong influences upon his intentions to remain in or quit his job or occupation.

This aim, as claimed at the beginning of this chapter, has three elements: the unique features of the marine officer's job and occupation influencing his level of satisfaction; the unified theoretical process; and the environmental climate influencing his wishes and intentions to become either committed and involved or to quit.

A major issue is to determine the dependent variable or variables in this

study. Two points are therefore raised in connection with this issue. The one is how to combine commitment and turnover into one operational variable. The other point is the decision about whether to relate this to a longitudinal research procedure which aims to investigate the actual behaviour of either positive commitment or quitting as the dependent variable or rather, to accept the above mentioned recommendations according to which one can regard the employee's behavioural intentions as the dependent variable. In a way, it is the problem of how to eat the cake and still keep it. The decision, therefore, was taken to investigate both alternatives; that of actual behaviour and that of behavioural intentions as well. As for the longitudinal research aim, it was planned to return to each and every sampled merchant marine officer five years after he had participated in the research. On the sixth year, it was aimed to investigate data about how much sea time the respondent had on board ships between January and December of 1982. This data should include information about those who had quitted the seafaring during the previous five years, and also measure the number of days on board the ship as representing his level of commitment. As for the intentional behaviour variable, we have incorporated the following question in our research tool; "given a proper (alternative job) proposition, would you be willing to quit your present seafaring job?" The optional answers for this question were in the range between (1) Yes, very much, (2) Yes, (3) I'm willing to consider, (4) I don't think so, (5) No, definitely not. By this question, we aimed to obtain the respondent's intention of either quitting or commitment, unified under one operational component. As a result, we could hypothesise that a significant relationship should be revealed between the two variables, and if so found, we could analyse our data wherein the dependent variable could be intentional behaviour.

As we have already raised the question about the relationship between

opportunities and alternatives with intentions to quit or to remain, the remaining problem now is to try and find an answer to whether this relationship is a direct or indirect one. Recalling the development of the theoretical approaches covered in the earlier chapters, we find that Price (1977) and Bluedorn (1982) saw opportunities as antecedents of "voluntary separation", the actual quitting behaviour. Mobley (1977) includes in his model the element saying: "comparison of alternatives versus present job" precedes "intentions to quit or to stay", which in turn cause actual "quit/stay" behaviour. Bluedorn (1982 : 90) unifies the various models by claiming that "environmental opportunity" is related to "turnover (behaviour) directly but indirectly as well (through "job satisfaction") which in turn, through the chain of variables, influences "intent to leave" which actually causes "turnover". Weiner (1982) drawing on Fishbein (1967) and Ajzen (1975) contends that "instrumental motivation" causes "intention" which leads to "behavioural types; efforts, attendance, grievances", but he neglects to include the "opportunity" factor implicitly in his model. Strangely enough, is the fact that Bluedorn combines both commitment and quitting behaviour into one operational variable, yet he does not pay attention to the idea that the relation between the "labour market job opportunities variable" with both cannot be the same. Do we have therefore to assume that job opportunity has an ambiguous effect on intentional and actual behaviour? Or, rather, should we say that if there is any effect at all, it must be only indirectly affecting intentions and actual behaviour or is it directly related to either or both?

We have already proposed that the structure of the present model should be of a spiral development type or, to use Allport's terminology, it should be describing a "cycle of events". We therefore should say that job opportunity and reference groups, or labour market job alternatives, must be considered as having an effect upon all the various stages of the process

described by Bluedorn (1982). This, actually, is an added feature, not mentioned by Bluedorn and, therefore, deserves an explanation. The labour market job opportunity variable, affects job and occupational expectations for it acts as a basis on which the seafarer evaluates the relational and material social and psychological returns he should obtain from his work and occupation (as they are defined by his personal contract signed for him by his representative union). This evaluation touches on the subject of occupational choice; an issue which is refrained from in this work.

However, we must accept the idea of the connection mentioned. The seafarers' part in the contract (as an employee) demands that he should invest time, effort, knowledge and power and, presumably, not be tempted by any pulling alternatives which are less attractive in the rewards they offer. This labour market alternative factor therefore affects contract renewal, expectations and satisfaction or dissatisfaction from the returns agreed and rendered. A discrepancy is found many a time between the agreed and obtained rewards. We therefore assume that this central factor impinges upon the employee's propensity to remain or leave his job, occupation and/or organisational situational environment. For if the alternative job/occupation/employer promises better returns of any kind of the various sorts of rewards (social, material and relational), the employee is supposed to search for another job, occupation or employer. Whereas, if he finds out that the alternatives are less attractive than the present situation, he would tend to remain in his present job. In a way, this is quite an economical process of judgement but, after all, that is what work is for, most of the time. Ultimately, the result is that either the employee is searching for a better job, occupation or employer or he becomes more committed and more involved. This includes the intentions which precede his behaviour, and again are compared with labour market job opportunities. In other words, we have followed all the various stages and phases which are described by Bluedorn (1982) in his 'unified-model', but we add the



effects of the alternatives, and labour market opportunities by changing these from one of the antecedents equally important to all other antecedents and by attaching to this factor of variables a much more important and influential place in our suggested model.

We claim, therefore, that alternative labour market job opportunities affect all phases of the studied process in our model, although it may very well be that this multi-dimensional affect varies and is differently revealed in relation to each and every phase. This factor acts as a basis for constant evaluation and feedback used by the employee to direct his subsequent intentional and, therefore, actual behaviour as well. We can deduce that when the employee's propensity is toward continued work-relations with his present employer he would sustain his inclinations and pre-dispositions by the information obtained and gathered from the 'labour market' variables factor. When, however, the propensity is toward withdrawal and quitting, the same variable-group factor, furnishes the employee's intentions with data and information by which he can direct and justify his intentional and quitting behaviour. Since this argument is drawn from well-known social-psychology works, we refrain here from its specific analysis. However, we do contend that within this central factor, we should include all variables of "reference group" which have the same effect upon the employee's evaluation of the different phases of the commitment process (McConvill, 1979 : 45; Howe et al, 1979 : 281).

Two conclusions are drawn from this. The first, which is not included in Bluedorn's work has a direct bearing on our model; namely, that labour market job opportunities and reference groups, do affect all phases of the described process. Each phase is affected differently and to a different level of influence. The second conclusion, which interests us more, says

that when opportunities are evaluated by the employee, two general propositions or possibilities exist; (a) if the employee's propensity is to remain and become committed and more involved, we should expect to find a direct relationship between the job opportunity factor, and 'intentions to remain' and in turn, this intention, causes the beginning and renewal of a new cycle of events. The employee is probably becoming more committed and the duration and extent of this commitment also depends upon the information obtained during the following cycle, which in our case is the "following sea-voyage". But when (b) the general propensity is negative, and towards quitting, there will not be the same direct relation, rather, it is hypothesized, that an indirect relationship exists. In such a case, the intervening variables are the situational organisational environmental factors which, when matched and compared with information obtained from labour market job opportunities data, and from one's reference group, affect the employee's intentions and subsequently upon his behaviour towards quitting (and if he cannot materialise this intention, then toward continuation of the present job, but as a 'dissatisfied stayer').

As already hinted, the information gathered from the labour market job opportunity factor is not only about actual chances of getting another job. It also includes data about rewards and returns attainable from alternative jobs, occupations or employers and out of comparing one's reference group's rewards. This comparison of actual and more, or less, potential rewards, could support the intentional inclination and/or attitude. In the case, when the result of the evaluation and the comparison is unfavourable to the employee's expectations from his present situation, and or his organisational environment, he may become the so-called 'dissatisfied stayer', who wants to quit but has not yet found a feasible alternative job to quit for.

We therefore hypothesize that when the employee has a positive attitude (propensity to stay) there is a direct relationship between 'job opportunity' and 'intentions', but when the attitude is negative, the relationship is indirect and intervened by situational organisational environmental variables. The Merchant Marine seafarer and officer then, either wants to or does not want to participate in another voyage. In Bluedorn's work (1982), neither the above mentioned two hypotheses, nor the specific structure of the proposed model introduced here, are mentioned.

Special attention is, therefore, drawn to the intervening situational organisational environmental variables. As we have already seen, the Merchant Marine Officers are divided into occupational professional groups. The three groups of officers vary in the main attributes of their jobs and, consequently, in the personal assets needed to fulfill them. The deck officers' job includes ship manoeuvring and business matters concerned with care of the cargo and property and, of course, human life. Whereas the deck officer is the instrumental leader who sets aims and the ways of how to adapt with the exterior world of the ship, the engine officer sees that all machinery is working efficiently, and his main function is closer to the co-ordination of aims and means. The radio officer is in charge of the communications and information transfer functions. All three types of officers differ horizontally and vertically by rank and ability. These are the features upon which the hierarchical structure of the ship's organisation is built. Each department and each level in this hierarchy invests different blends of assets in various degrees and amounts while performing the job. Accordingly, each and every officer has different situational work conditions and environment with different returns and rewards. These are the living space and personal dwelling quarters, level of salary, status, prestige, power over subordinates, service conditions and working hours etc. It is

self evident that the differentiation by rank and department divides the officers into distinct groups of working people with different working conditions and related rewards. On the other hand, there is a very well-defined set of manpower regulations, imposed by the shipping company based upon the managerial philosophy of the owners. As we have shown, there is the 'national shipping company' and the 'risk prone' or 'risk averse' owners, each of which has its own ideas on how best to handle and manage its manpower assets. This is revealed in the extent of dependency upon specific personal and human manpower policies employed on board the ship and, therefore, the kind of relationships developed (as a result of the inter-dependence) between the employee and his employer.

These two clusters of factors or variables affect the employee's evaluation of his personal assets invested into the binding "contract relationship" with his employer and the evaluation of and expectations for returns and rewards. The evaluation of investments and returns in reward units is the criterion each of the officers use to decide whether to continue or discontinue his relations with the employing shipping company. The result of each evaluation is either contributing to continuation or to the breaking of the employee-employer relationship. This results in the form of either stronger commitment and renewal of the 'cycles of events', or the intention and consequent quitting behaviour. In our special case of the Merchant Marine Officer, it was seen that a new voyage does actually include the element of new beginning of a cycle of events and is distinct from the previous voyage. In a way, it is this unique feature of the seafarer's occupation which marks the element of renewal of relationships more clearly than in shore based occupations.

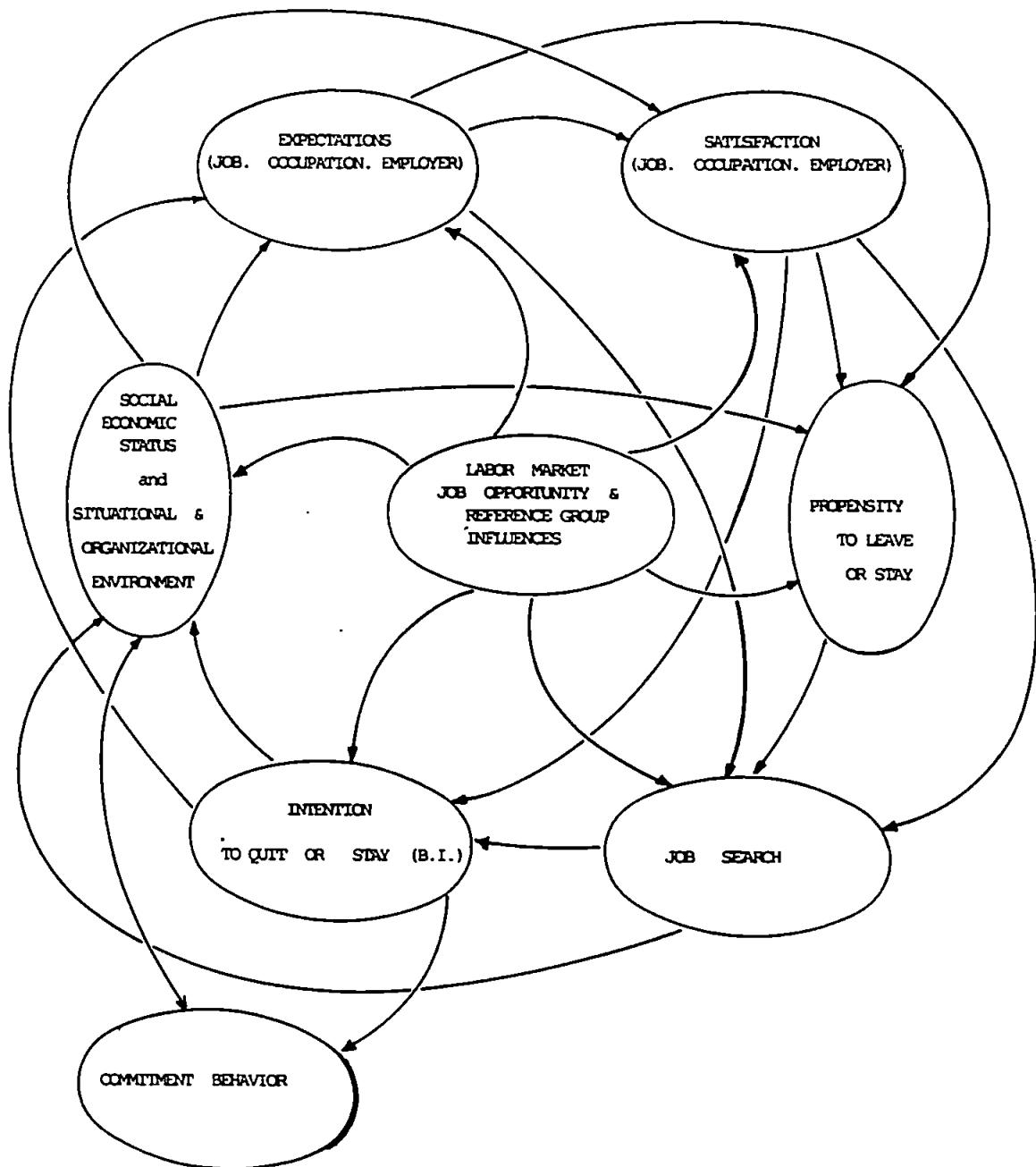
The operational definition of these variables was chosen as (i) the "officer's department" to represent the organisational environmental facet

and (ii) his "rank of competency" to represent the officer's situational reality. It is quite clear that the officer's employing shipping company represents (operationally) the total institutional organisational environmental variable.

Consequently, we are now able to describe our theoretical model as based on Bluedorn's unified model (1982) with special consideration as to the labour job opportunities market and reference groups on the one hand, and on the other, the situational organisational environmental variables which either represent the beginning of a new cycle of events and are directly related to the seafarer's intention to quit and, in turn, probably to his actual behaviour as well (both directly and indirectly).

Fig. No. 3.1

THE PROPOSED THEORETICAL MODEL



We also expect to find, in the suggested theoretical model, proof for the "feedback" element mentioned in the Mobley model (1977). An element hardly mentioned by Bluedorn when he incorporated Mobley's work into the 'unified model'; he simply does not deal with this element. What is meant here is that, beside the direct relations expected in the causality chain upon which we build our suggested model, we also expect to find that job expectations should be related to 'propensity to remain or leave' which comes after the 'satisfaction' variables in the order of causality. In Mobley's work, this was expressed as the link between "evaluation of existing job" and "thinking of quitting". This expectation bears very much on the decision as to which tool of analysis should be chosen for the validation of the empirical results to match the theoretical model: this issue will be discussed in the sixth chapter.

One of the main reasons for drawing on Price's work (1977) and that of Bluedorn's (besides building the causal model as revealed in the fieldwork) was to determine the strength of the various variables in influencing and explaining the variance of the dependent variable 'turnover' : what they actually measured was the rate of quitting behaviour which is the actual action of a person who leaves a certain job (we would prefer to define 'turnover' only in the broad meaning of the term which includes the whole process where all the vacancies caused by quitting are filled by others). However, as we discovered when analysing these works, the relative importance of situational and organisational environmental variables was practically neglected, mainly because no attention was paid to commitment as a single variable with two possible sides. As a result, previous research works were not sensitive enough to the intervening function of these environmental variables which should stand between labour market job opportunities and reference groups and the dependent intentional and actual quitting behaviour.

It has been common practice for researchers to study one population of employees such as nurses or teachers and rarely are two or more populations compared. We often find the recommendation that, beside the need for a longitudinal study, the results obtained from one group should be compared with results from different occupational groups. While this is an excellent suggestion, it is almost impossible due to the variety of research methods and definitions used. In our work, we are fortunate to be able to include at least two different occupational groups who work for different organisational bodies. Namely, merchant officers of different departments having different features and different working conditions and employed by different shipping companies utilizing different managerial policies and styles. We have also paid attention to the theoretical results and to the importance of "opportunity" and "reference" and, therefore, we can set out to re-examine the relative order and power of various independent variables in explaining the variance of the dependent variable, taking into account the influence of the intervening variables of situation and of organisational environment upon intentions and actual quitting behaviour.

Although the present point is mentioned at the end of this section on the research aims, it is because it is based upon our hypotheses about the restructuring of the theoretical model. However, in the practical order of investigation procedures, this point should have been mentioned first. We therefore propose that different work situations and organisational environmental types do have different effects upon the employee's intentional and actual quitting behaviour. We also expect, therefore, that the relative power of the variables in explaining the variance of the dependent variable, varies if we change either the situational or the organisational environmental variables, or even both. This shall be the first step of analysis in the fifth chapter and only in the sixth chapter shall we deal with verification



of the theoretical model.

We can now turn to the definition of the variables.

### 3.3 OPERATIONALIZATION OF VARIABLES

It is astonishing that, when constructing our own research tool in 1975, we included most of the variables then known in the literature although, at that time, Bluedorn's works (1980, 1982) and Price and Bluedorn (1977, 1979) had not yet been published. Nevertheless, we shall use Bluedorn's definition of Variables. With each definition, we shall give some of its operational variable where the form "var xxx" is the number of the variable in the computer program and the form "Q xxx" is the number this variable has in the questionnaire (See Appendix). The order of the definitions as given by Bluedorn (1982 : 139-140) is kept unchanged.

Promotion Opportunity : The probability that an individual will be able  
to occupy roles within the organisation that offer  
greater rewards.

Var124 - Q 292, Var031 - Q058, Var164 - Q218, Var146 - Q055, Var102 - Q264,  
Var082 - Q166

Centralisation: The extent to which power is concentrated in a  
social system.

Var038 - Q090, Var041 - Q093

Instrumental communication: The extent to which information about role  
performance is transmitted to the organisational  
members.

Var190 - Q168, Var112 - Q279.

Equity:

The extent to which an individual's job inputs and/or outcomes are perceived as equivalent to the inputs and/or outcomes of those in the individual's reference group.

Var084 - Q168, Var085 - Q169, Var173,4,5,6 - Q228,9,30,31, Var023 - Q037.

Pay:

The money, fringe benefits and other commodities with financial value which organisations give to employees in return to their services.

Var090 - Q175, Var043 - Q102, Var051 - Q128

Routinization:

The extent to which the role performance in an organisation is repetitive

Var168 - Q223, Var169 - Q224, Var075 - Q159

Member Integration:

The extent to which a member participates in primary and/or quasi-primary relationships within the organisation.

Var046 - Q105, Var047 - Q106, Var048 - Q107, Var062 - Q146, Var125 - Q293

Environmental Opportunity: The number and quality of unoccupied roles in an organisation's environment.

Var110 - Q277, Var106 - Q273, Var107 - Q274, Var030 - Q057

Environmental Opportunities Foregone: The number and quality of unoccupied roles in an organisation's environment that an organisation member has bypassed or rejected.

none.

Potential Role Conflict: The probability that two or more sets of pressures will occur such that compliance with one will make it more difficult to comply with the other.

Var191 - Q322, Var133 - Q308, Var172 - Q227, Var181 - Q294, Var165, 6,7 - Q220,1,2, Var163 - Q217, Var001 - Q219, Var002 - Q219, Var096 - Q208.

Length of Service:

The amount of time an individual has been a member of an organisation.

Var058 - Q142, Var178 - Q269

Age: An individual's chronological age.

Var003 - Q001

Education: The amount of the respondent's formal schooling or training.

Var032 - Q059

Job Satisfaction: The affective orientations of individuals to the work roles which they occupy.

Var040 - Q092, Var045 - Q104, Var091 - Q176, Var182,3,4,5 - Q297,8,9,300.

Organisational Commitment: The strength of an individual's identification with and involvement in an organisation.

Var143 - Q049, Var072 - Seetime on 1976, Var086,7,8,9 - Q170,1,2,3

Var.141 Seetime on 1982

Intentions and propensity to quit or remain

Var128 - Q301, Var144,5,7 - Q052,3,6. Var126 - Q295, Var050 - Q109,

Var182,3,4,5 - Q297,8,9,300

Actual Quitting : (Commitment)

Var141 - Activity on 1982/3, Var197 - Activity on 1982

Var072 - Activity on 1975/6

### 3.4 CONCLUSION AND SUMMARY OF PROPOSITIONS

In this chapter we have tried to raise the need for the re-organisation or restructuring of the accepted theoretical model concerning employees' commitment-behaviour along the following lines:

(a) If the notion of 'cycle of events' (to which the employee becomes more or less committed) is the basic hidden postulate of the studied process, then the model should not be arranged as a sequential relationship between causal variables leading to quitting intentions and actual behaviour.

Rather, the sequential chain of causality should be organised and studied as a spiral process.

(b) If the employee is described as moving through the social boundaries of the social system, then his activity and behaviour are potentially directed either towards the centre or towards the periphery and beyond it. Therefore, the mandatory result is the unification of the terms of commitment and quitting behaviour under one theoretical and operational construct. Consequently 'commitment', as an aim to be studied, should be treated as a construct which has positive and negative forms - both, theoretically, equally important.

(c) Assuming that the unification of several approaches to employees' behaviour under one theoretical perspective is justified, we conclude that two problems must be re-investigated. One is the causal feedback relationship between variables as mentioned specifically in Mobley's work and practically neglected in Bluedorn's unified model. The other is the proper consideration that must be given to the labour market, job opportunities and the social reference groups influences, also practically neglected in the 'unified model'. These two problems also become central issues of investigation in our work.

(d) It was found that while the relationship between 'intentions' and actual behaviour has been accepted and incorporated into the theoretical perspectives taken by almost all scientists studying commitment, it was simply assumed and taken for granted. It therefore becomes an issue in our study that we should distinguish between the positive and negative propensities of employees and the causality leading to either commitment or quitting behaviour as influenced directly or indirectly by 'opportunity' with or without intervention of the situational organisational environmental variables. This, in turn, should lead to the study of the relationship between intention and actual behaviour, while emphasising the aspect of the negative propensity of the employee leading, ultimately, to quitting behaviour. In a way, we suspect that the unified model, as developed by Blueborn (1978, 1982) is more appropriate for the positive commitment behaviour where the renewal of the relationship between employee and employer is smooth and that no problems exist in matters of returns and rewards. But when various degrees of commitment are possible, then the spiral structure is preferable.

(e) Assuming the influence of situational and organisational environmental variables (so far practically neglected in the empirical studies of commitment) the need arises to find out the relative influence and power of explaining the variance of the dependent variable by causal and antecedent factors. This should be investigated while the intervening variables are under control.

Since the last aim was the original aim studied by Price (1977), we believe this should be dealt with first in the present study. Therefore, after the next chapter, in which we enter into methodology and research procedures, we shall begin the data analysis with the last mentioned aim, and only in the sixth chapter shall we enter the specific structure of the model and the theoretical hypotheses it includes.

## CHAPTER FOUR

### METHODOLOGY OF FIELD WORK PLANNING AND PERFORMANCE

#### 4.1 Introduction

The issue of studying commitment or quitting behaviour among merchant marine officers includes some very special methodological problems that do not arise when studying the same subjects among shore workers. To date, two main recommendations are found in the literature. One favours a longitudinal study, while the other suggests a comparative analysis by including, in the studied group, more than one occupational population. Another matter is the research tool and the policy chosen for data analysis. It is quite common to gather information from a sampled population which includes data about values and attitudes, prior to the data gathering about the actual behaviour. This body of information is examined and compared with additional information, related to the employee's values and attitudes, the source of which is usually the management's manpower files.

In the present chapter we discuss some of the main methodological issues such as elements of time, the research tool, population, sampling and related measures. The discussion is concluded with a description of the sampled population - its attributes and characteristics.

#### 4.2 THE POPULATION AND THE 'TIME' FACTORS IN DEFINING "ACTIVITY AT SEA"

In trying to define the "active" merchant marine officer, the researcher must admit that any definition is as good as another. The average Israeli merchant marine officer sails for 5-7 months annually although the binding contract signed between shipowners and the union mentions about eight months' sea-time annually. In reality, it is found that companies employ some two officers per berth and, therefore, the average sea-time is about 50% of the calendar year.

However, it is quite common for an officer who is not sailing aboard ship to be participating in a professional degree course or to be preparing for the examination to qualify for a higher qualification. This can last for up to twelve months. It happens, therefore, that a 'bona-fide' active merchant marine officer may sail some 1-2 months in one year and return to his next voyage after 14-16 months. The arbitrary definition of an 'active seaman' (as accepted by the manpower division in the Israeli Shipping and Ports Administration (S. & P.A.)) demands a minimum of one day of seetime in any calendar year.

Unlike research in shore-based industries, a researcher investigating seafarers cannot easily trace and interview seamen about their ships. It is rather impractical to expect the researcher to administer the research tool while the ships are at high-seas for some may be at the other side of the world. This brought us to try and trace the target population prior to 'signing-on' or immediately after 'signing-off' the ship, when they are ashore and willing to co-operate openly: they must be able to speak freely and submit unbiased information and data. Unlike the shore worker, the definition of an 'active-seaman', 'withdrawing employee' etc. and the ability to meet them, are problematical and difficult. In addition to this, a researcher cannot ask the Shipping Company for a list of employees for such lists are never up-to-date because of the unique characteristics of the industry and occupation. Furthermore, we found it impossible to make voyages because of administrative difficulties and for personal financial reasons. This of course, did not help the researcher in approaching only bona-fide seamen, and an arbitrary definition for an active officer became mandatory. Crew-lists could not be used for the creation of the research sample. Instead the files of each seaman in the Shipping and Ports Administration (S. & P.A.) were used as the data base for purposes of this research.

This body of information is derived from the following sources : ships' crew-lists; shore authorities such as port-police; seamen's physicians; certification ; administration and the nautical schools, and the shipping commissioner. All Israeli ratings and officers alike, appear, if under 40 years of age, once every two years, and if older, once a year, to revalidate their "seaman's books" before the S. & P.A. It was, therefore, decided that all active officers who appeared at the S. & P.A. between April 1975 and March 1976 should be considered as the target population. Although the younger officers come to the said office only once every two years for the seaman's book validation, all seamen do however come almost after every voyage to collect their seaman's book which has to be left for port police clearance just before the ship sails. If an officer does not remain on board, the port-police collects the book for registration and then transfers it to the S. & P.A. This procedure lasts for about two weeks and almost all officers must come and collect their seaman's book from the S. & P.A. office. It was, therefore, assumed that almost all the active merchant marine officers would have the same chance of being included in our sampled population.

Potential quitting officers presented a problem. If they are approached just after their last sign-off they are still considered 'active' although they are problematical. For even if such an officer is approached and answers the research tool; he may quit immediately afterwards. In such a case, the arbitrary decision to include him in the active population is a little weak.

It was, therefore, decided to approach on every second day, all the officers who appeared for various reasons at the registration desk of the manpower department of the S. & P.A. and, if they had reappeared for at least one more sea voyage (also registered in this department's data base)--they were



included in the final sample. The final sample (as calculated) was planned to include some 300 officers.

#### 4.3 THE RESEARCH TOOL, AND THE LEVELS OF INFORMATION

Having been confronted with the problems described, there was the problem of how to gather the field data and by which operational tool. The following discussion of this problem draws on Selltitz et al (1959) and Good and Seates (1954). Three general options were found to be potentially applicable, each of which had some advantages and disadvantages. These were the interview, the open and the closed questionnaire. In addition, access to personal files of the target population was granted by the S. & P.A., Manpower Department.

The final choice between these options was influenced by two elements: the 'time' factor was one and the features of the data and information needed was the other. As for the time factor, we can only point out that it had the characteristic of 'now or never'. It is true that when seafarers are ashore, they are free people with plenty of free time. They do not go to work and, sometimes, they are even said to put their families' routines in disorder. But they would never be willing to discuss occupational personal matters if they are summoned or approached while at home. They are simply quite busy in reorganising their personal social life. In practice, the only time when they are approachable is just before or after their voyage, or when on board a ship. Even then, it is for no more than some 30-35 minutes. They are rarely capable of concentration and strict thinking. They are not to be blamed for this fact, for their life experience is such that it is most difficult for them to elaborate on specific analytical matters. Therefore, we had no choice but to approach these officers for a period of up to 30-35 minutes. Within this period of time, we had to ask

for all the information which could be obtained only from the seamen themselves. This fact dictated that data and information about attitudes and values should be obtained within this limit of time. All other levels of information were planned to be derived from the respondents' personal files which are kept in the S. & P.A. For this reason it was decided to ask that names be given by the respondents so that data about their sea-time or professional careers could be related to the respondents' answers. This dictated that the seamen should be approached by an objective person (yet not unknown to them) so that the data gathered be valid and true. It therefore demanded that the author should approach every sampled officer for he was known to be interested in the seamen's personal problems although employed not in a 'line' job in the S. & P.A., but rather in 'staff' capacity. This could be done only during working hours but, since the author could not devote his entire time to this task because of obvious reasons, the result was to minimise the element of interviewing and rely on questionnaires as the research tool. The personal acquaintance between the researcher and respondents was a 'must'. It was revealed during the pretest that common language and personal trust was mandatory. When discussing the matter with the interviewed officers, they were asked whether it was proper to hire professional interview people. One striking answer shaped the decision: an officer said that, when he had discussed a "log" with the shipping commissioner (who is not an ex-seaman) the term of "short hand pay" was raised, (payment to which a ship's crew is entitled as by contract, if one of them is sick for more than a week, and his friends are doing his work too). This officer said "He - the shipping commissioner - does not understand my language". Seamen are very touchy about this. The result was, therefore, that the questionnaire was administered by the author. It was given to the sampled officer after he was invited to the author's room. The respondent was requested to participate in the

described research, giving voluntarily both name and seaman's book-number as asked orally and by a specific written question. During the short discussion mentioned, which lasted up to 4-6 minutes, various matters were raised about his willingness to remain at sea or quit and about his satisfaction with his job and work situation. These issues were planned to be covered in 7-9 short questions, the replies to which the author did not pass any comment. These questions were aimed at leading the seaman to agree to answer similar questions in the research tool as a basis for a systematic research. Only one of the officers approached refused to participate and did not agree to complete the research questionnaire, unless it were anonymous. Of the remainder, 25 officers took the questionnaire and did not keep their promise to return it by mail after having answered it while aboard their next ship.

During a period of about two months (January-February 1975) the author interviewed 40 officers holding different sea-ranks, most of whom were senior deck and engine officers (20 of them were shore inspectors, instructors and examiners) employed by different shipping companies and organisations (such as the Ministry of Transport, Employment Ministry, Merchant Marine Instruction and Education Authority, and the Port Police). This was done after the researcher had sailed on board three different ships for different time periods and voyages (one voyage to Cyprus on board a small cargo ship, one voyage to Northern Italy on board a container ship and once to Canada on board a large grain ship during the winter of 1974-75). During these voyages the various research questions were shaped into analytical and operational forms and discussed later with the 40 different officers interviewed (Israeli and foreigners).

The verbal oral evidence gathered is generally evaluated by sociologists to have more disadvantages than advantages. It is said, to lack a

representative picture of reality. However, the arguments countering these attacks have been that the oral information allows for revealing areas ignored by the study. It is further claimed that research data is particularly selective and there may be hidden groups or spheres of life about which little or no information becomes available through the use of oral interviews. Even when written responses are obtained, an interview is helpful and corrective. The second point is that, by collecting oral data and information, the researcher can obtain information on an individual basis using his own concepts and categories. Thirdly, this is the only means by which the individual feelings, beliefs and perceptions can be explored. These advantages outweigh the danger that the researcher may force his own categories on the organisation and personal evaluative data, or that he become less objective. This danger exists in all methods of data gathering if the researcher is unethical. The most important advantage of oral data gathering, is the subtlety and fineness of answers that bring the receptive researcher to reassess and reformulate his concepts, categories and ideas, by which he aims to analyse the data (especially when getting answers to questions unasked, or even asking questions and not getting answers).

The criticism attached to this kind of information gathering technique is mainly connected with the lack of variety and representative answers obtained. However, one should be aware that there is a constant danger that the researcher may influence on the respondent's way of answering even without knowing it.

On the whole, the hidden criticism that this type of collecting data lacks reliability and validity is refuted by many scientists. The questioning of the reliability of memory leads the researcher to gather only facts and not historical memories. Besides, one's memories are not always misleading or unimportant, especially if there is a parallel source of data to check and

assess the data 'remembered'. Since attitudes are known to change and be forgotten, the wise researcher should employ this tactic only for facts and, therefore, reliability is not at stake. As for the validity, as long as the researcher is aware of the biased data, the direction and the amount of bias, the validity cannot be criticised especially when the researcher is always responsible for his analysis and presentation of the facts gathered. He is never free from this responsibility and from the danger of attaching importance to data that may be invalid. As for the danger of personal interaction with the interviewee, and the influence this has on the validity of the data, this danger exists even when analysis of hard facts is being done, which always is the source of development in any scientific discipline. Although many do criticise interview techniques, it is considered by many others to be of valuable help. Interviews were, therefore, used for their advantages as a method by which areas of problems and evaluative attitudes could be traced and defined while preparing the research tool. It was also used to encourage the respondents to uncover their initial and innate feelings towards "those who pretend to be interested but do nothing for us seamen".

It was, therefore, decided that the principal research tool would be a structured questionnaire, based on the interviews discussed earlier. Use of such a questionnaire enables the researcher to investigate facts as well as attitudes, values and perceptions. This technique does not cover or uncover the truth more or less than any other. Rather, it is connected to the comparative validity of different values attached by a group of respondents to the investigated variable. The researcher can utilise a biased question or a non-biased one, as long as he is aware that there are no doubts as to the validity of the assumptions upon which the question is based. It is, therefore, more practical to use closed questions than

open ones and the reasons are basically technical. The closed question limits, in advance, the "repertoire" of the answers submitted by the respondent. On the other hand this kind of questioning may sometime awaken and arouse attitudes, judgements and ideas yet unknown to the respondent himself. These closed questions are very often detached from the general investigated situation. Therefore, the meaning given by the respondent to words used or suggested to him is not always clear. When he uses his own language, he is supposedly giving up and revealing his reference background. Thus scientists tend to prefer open questions. But two reasons are found in the literature which do count more than anything else. The researcher must compare the scientific research gains from two similar tools which demand the same amount of financial investment. In this case he must compare the gains from one open-question with five to ten closed ones. He can always add some clarifying questions, by which he may obtain the exact answers related to the investigated variable. It is assumed that the validity of such additional questions and the reliability obtained is higher than if he uses an open-question. Although with the use of open questions, one can obtain original and authentic expressions, at the end the researcher always interprets the collected information and is more than responsible to his criteria - both before posing closed questions and after collecting the answers. When the researcher publishes his research work and results, he never uses the originality of the investigated population and responses; instead he uses his own words, sophistication and approach.

As already hinted, the data and information required for the present research work (identified from the literature reviewed), is on three separate levels. The first is of unchangeable events concerning the officers' occupational life experience which provide statistical data such as age, marital status, education, shipping company where employed, tenure at sea and with employer, the respondents' social-economic status. The

second level is more variable and is connected to the respondents' sea-time, career development, shore and social life-style. The third, is the level of data about the officers' occupational expectations, satisfaction, propensities and intentions while at the same time evaluating their objective/subjective attitudes toward their job, occupation, employer and comparing these with labour market opportunities and of the behaviour and attitudes of their reference social groups.

Within the limits of time and financial considerations described above, the decision was therefore taken to use the closed questionnaire, by which data at all three levels could be gathered and complemented with data on sea-time and career advancement derived from the officers' files and registrations administered by the Shipping and Ports Administration bureau.

#### 4.4 RESEARCH PLAN, METHODS AND SAMPLING PROCEDURE

The main conclusion derived from the literature review led the author to assume that the dependent variable must be defined as a continuum between quitting and commitment behaviour, which should lead to the causal chain between antecedents which commonly influence the unified construct. The consequence is to find the relative power by which the variance of the dependent variable can be explained. In so doing, we follow the usual empirical research procedure mentioned by various authors. Since we actually aim to strengthen our hypothesis about the structure of the general theoretical model (by which we should be able to predict the officers' occupational behaviour in the realm of commitment, both positive and negative), we shall try to sustain or refute the causal influences of various variables mentioned earlier (as the antecedents of quitting and commitment). Our main emphasis shall, therefore, be to sustain the idea that opportunity, labour market and reference groups, together with potential work or role conflicts, do have a clear influence upon most of the stages of the process, if not on all of them. This is contrary to the model suggested by Bluedorn (1982) wherein environmental opportunity is connected directly with turnover behaviour and indirectly with the same variable but only through the negative relationship with satisfaction.

Two main operational variables should enable us to clarify the influences of the environmental and situational factors effecting the process we have suggested in the theoretical model. One is the shipping company employing the officer and which stands as the operational construct of organisational environment. The other is the ship's department in which the officer is working - i.e. the deck, radio or engine room department. Since the shipping companies have already been divided in this work into three groups or categories, we shall try to show that significant variations can be



found when analysing the data and directed towards the study of the relative effects of the antecedents which cause the expected commitment behaviour. It is expected to find that :-

- (a) the order of antecedents of commitment varies when analysing it among officers of different shipping companies. It is also hoped that some variables which explain the variance of the dependent variable in one shipping company are not those which cause the same behaviour in another company, or that they have different amounts of power to explain that behaviour (by the different level of explained variance of the dependent variable).
- (b) We also expect that a more distinct differentiation can be concluded from our collected data so that we will find that, even if various variables have different causal weight, they may be different variables which belong to the same factor.

The same two steps of expectations are then anticipated to be found if we conduct the described procedure of analysis, where we study the variations caused by ship department and of rank level and the seafarers' status within the organisation which we see as the main factor of the "situational" variables in this work. The theoretical basis for this approach and the research expectations are drawn from Hill (1972), Moreby (1982)(1974), and Fricke (1974).

The main statistical procedures of analysis shall be as follows :  
For depicting and finding causal antecedents and their relative power and order of importance (i.e. relative power to explain the variance of the dependent variable) we shall use Pearson Correlations and stepwise regressions.

For the purpose of sustaining the proposed model, we shall report on the examination of coefficients of highest order correlations (Pollatchek, 1974 : 45-60).

For the third group of aims, namely the intervention of environmental and institutional situational variables, we shall report on stepwise regressions conducted for this purpose.

We shall therefore, start with the description of our population and the differentiation between stayers and leavers. We shall then try to focus on the description of the main antecedents and their relative influences. Thence, we shall go into the verification of the suggested model and then to the analysis of the environmental situational influences of variables.

During the period between April 1975 and March 1976, every second merchant marine officer who appeared before the Shipping and Ports Administration (then, the Department of Shipping and Ports), Ministry of Transport, Haifa, Israel (in order to apply for seaman's book validation or for registration to a professional certification examination) was approached. Participation in the research was voluntary and those who answered our research tool had given both their names and seaman's book number. This was required in order to enable us to add data concerning the officers' sea-time and professional experience during the year of 1976. The questionnaire was planned so the the time needed for its completion amounted to about 25 - 30 minutes. Each officer willing to answer the questionnaire was requested to enter the author's office, where he was interviewed for some 5 minutes, and given instructions on how he should answer the questions. Prior to actual sampling, a body of 40 officers were approached for pre-test purposes and for refinement of the questions in order that clarity would be achieved.

Table No. 4.1

JOBS ABOARD ISRAELI MERCHANT SHIPS AND RESEARCH SAMPLE BY RANK/DEPARTMENT  
for : 31st March, 1976

Department and Rank	(1)	(2)	(4)			
	No. of Jobs Manned by Israeli Officers on 31.3.1976	No. of Questionnaires Returned	Sample's Valid Cases			
			No.	%	<u>100(4)</u> (2)	
Total No. of Officers' Jobs	762	374	(49.1)	301	100.0	80.5
Total No. of Deck Officers	276	184	(66.7)	141	47	77
Master	81	50	(61.7)	36	12	72
1st Mate	63	38	(60.3)	30	10	79
2nd Mate	60	39	(65.0)	33	11	85
3rd Mate	72	57	(79.2)	42	14	74
Total No. of Radio Officers	73	33	(45.2)	27	9	88
Total No. of Engine Officers	327	127	(38.8)	105	36	83
Chief Engineer	62	19	(30.6)	15	5	79
1st Engineer	49	27	(55.1)	22	7	81
2nd Engineer	72	20	(27.8)	18	6	90
3rd and 4th Engineer	93	39	(41.9)	34	12	87
Electric & Frig. Eng.	51	22	(43.1)	16	6	73
Catering Officers	40	11	(27.5)	9	3	82
Cadets	46	19	(41.3)	16	4	84
Respondent's Rank Unknown				3	1	

(3) = 100(2) : (1)

Source : Sen. Merchant Marine Manpower Planner, Ministry of Transport,  
Shipping & Ports Administration

This random approach to every second officer was reached by administering the questionnaire every second day. Since we had not presumed any of the officers' characteristics, we did not plan for any 'quota-questionnaire' in advance. Rather, we assumed that all officers would attend the department at least once a year.

All in all we approached 400 officers, 374 of whom were willing to participate. Due to blanks in crucial questions, mainly among the 'non-active' seafarers, 73 questionnaires were later excluded. The final sample, therefore, included N = 301 officers (see distribution of sample in Table No. 4.1).

After coding the data, according to S.P.S.S., (1970) and S.A.S. (1982) procedures, the first run was to find out whether all the questions were answered. The aim was to exclude questions (variables) with less than 95% answers. None was excluded.

The research tool included mostly "closed" questions and the few "open" ones were not coded, nor analysed statistically, but these were used for general impression only. The questionnaire was planned to cover the following areas : socio-economic origin and background of population; information about regular army service of the officers; satisfaction from job, work, occupation, employing shipping company; propensity to remain or leave job, work, occupation and employer; intentions manifested in job search, evaluation of self in local or in the country's labour market; commitment to job, work, occupation and employer. After 5 years (i.e. 1982) from the date the questionnaires were completed, additional file-data was collected from the Shipping & Ports Administration - Division of Manpower. This additional data included information about rank advancement within

the period of those 5 years (1976-1982). This, as already explained, was in order to obtain a longitudinal feature of the research work. The research questionnaire is given on Appendix 'B', and includes the list of the transformation of questionnaire variables into computer codes of the same variables.

The total target population of active seamen in 1976 was 1199 officers (see Appendix 'A'). Each had sailed for at least one day during 1976 on board one of the 86 Israeli-owned ships supervised by the Shipping and Ports Authority (See Appendix 'A'). Out of 870 officers' jobs, 26.4% were occupied by foreign officers and the remainder by Israelis. On 31st March, 1976, Israeli officers occupied 762 jobs. These were divided as follows: some 70% were employed by Zim Co., 10% worked for El-Yam Co., and the other 20% for some 7 other shipping companies (see Appendix 'A'). Of the 762 Israeli officers' jobs, 276 were deck officers, 73 were radio officers, and 327 were engineer officers including electrical and refrigeration officers. There were also 40 catering officers - chief stewards who belong to the Israeli Merchant Officers' Union - and 46 cadets who did not belong to this union. At the time of planning the research, we had information that annual quit rate was about 14% which should lead to some 53% turnover within a period of 5 years. This gave us the size of sample by drawing on Yamane (1976 : 98-101). The formula used was :

$$(a.1) \quad n = \frac{Nz^2 pq}{Nd^2 + z^2 pq}$$

where : n. is the size of sample  
 z is the interval of confidence of 95% (z equals 2)  
 d is precision within 5% reliability  
 p is percent of quits (.53) where q is (1-p)  
 N is the original population. (1199)

solving for these parameters, we get :

$$(a.2) \quad n = \frac{1199(4)(.53)(.47)}{1199(.0025) + (4)(.53)(.47)} = 299$$

This allows us to assume that for 5% reliability and within an interval of 95% of confidence, a sample of 301(N) officers fits a population of some 1200 marine officers.

Having collected the data and analysing it, we found the following results:

Table No. 4.2

VARIABLE NO. 037 : "SEA RANK GROUP" BY VARIABLE NO. 141 : "ACTIVITY AFTER 5 YEARS" (IN 1982)

V.037	V.141 Doesn't Sail (quits)	2 Months on 1982	3-4 Months on 1982	5-6 Months on 1982	More than 7 Months	Total
Cadets & Junior up to 2nd Officer	126	8	14	11	33	192
1st Officers	30	4	9	6	9	58
Master & Chief	26	5	4	5	11	51
Total	182	17	27	22	53	301

Drawing on Cochran's (1977 : 57) formula No. 3.19, we can find the actual accuracy of our sample.

$$(b.1) \quad \text{Accuracy} \approx \hat{p} \pm \left[ t \sqrt{1-n/N} \sqrt{Pq/(n-1)} + 1/2n \right]$$

where:  $t$  is 2, (95%) interval of confidence  
 $\hat{p}$  is sample's proportion of leavers (182/301)  
 $n$  is (301) size of sample  
 $N$  is size of total population (1199)

solving for the above parameters, we get :

$$(b.2) \quad .605 \pm 2(.8654)(.02823) - .0017 = (.605 \pm .05);$$

$$(b.3) \quad .555 \leq .605 \leq .655$$

$$(b.4) \quad \frac{0.05}{0.605} \times 100 = 8\%$$

This means that, even if we do not assume linearity, the sample allows us to accept, within an interval of 95% of confidence, that our findings have a relative distance from the expected population reality of about 8% in each direction.

#### 4.5 THE POPULATION SAMPLED : CHARACTERISTICS

In order for the reader to understand the sampled population, we shall refer here to the socio-demographic features included in Table No. 4.3. We shall, however, refrain from any expected comparison between our data and parallel information obtained and reported in other research works which have also studied merchant marine officers. This, because of necessary parsimony and because we feel that such comparison, may lead us astray. Although the following features have been found as important variables by which scientists describe employees, any such comparison would require meticulous descriptions of the various results and their meanings up to a point where this could become an independent subject for further research work. Nevertheless, the following variables are chosen precisely because they are referred to by other scientists and because they were also found to be of importance.

In a recent work published in Israel (Shoshani, 1983), a very interesting result was obtained. It was found that, in Israel (although known as a country where society is comprised of immigration waves), the social-economic status and origins of the average merchant officer did not influence his success and chances of advancement in his career. In the following analysis, we shall advise that the reader suspects the above mentioned conclusion for, if it were true, some of the variables which follow should have been quite differently shaped. Contrary to this conclusion, our findings suggest that we cannot agree to the idea that a seaman's occupational advancement in the Israeli merchant industry depends solely on his will and personal capacity or qualifications. The thought, based on the centrality of social economic variables in explaining a seaman's advancement, seems stronger and more realistic if the data in Table 4.3 is analysed.



### Marital Status

Some 183 (60.8%) of the population sampled, were married officers. As should be expected, the higher the ranks of the officers, the more married people will be found in that rank group.

### Age

Out of the 301 officers sampled, 135 (44.9%) were under the age of 30 years. Only 68 (22.6%) were above 40 years of age, and about a third of the sample were in the range of 30-39 years of age.

### Education

About 60% of the officers had graduated from high-school. Of those who did, 102 (33.9% of the entire sample) had completed nautical high-school and some 55 (18.3% of the sample) had either begun or finished studying and graduated from a higher education institute such as a professional college or at university level. Only 68 officers (some 22% of the sample) had only eleven years of education and did not finish the 12 years at high school level which is usually required of anyone who wants to become a merchant marine officer.

### Occupational Tenure-Years as a Merchant Seaman

One hundred and seven officers (35.5% of those sampled) had been to sea less than 3 years. About the same size of the sample, 112 officers (37% of the sample), had been seamen for more than 9 years. The others were 35 officers (11.6%) who had 4-5 years of occupational tenure and the remaining 47 officers (16% of the sample) had been sailing for some 6-8 years at sea.

### Shipping Company

As already indicated, 68% of the sample were employees of Zim Co., 9.3% (28 people) were officers of El-Yam Co., and the other 22.6% of the officers worked in the other small Israeli shipping companies. (See Appendix "a" for comparison with total population).

### Continent of Birth

According to the expected notion, most of the officers were either born in Israel or in European countries (256 out of the total of 301). The remainder (only 14.9%) were born in either Asia or Africa. The reason for the expectation mentioned is based on two elements. The one is that the minor group in the sample stems from families in which "family ties" are most important and stronger in cohesion than in European culture families. The other point is the level of the capability to work with modern technology for most of those who stem from Asian-African origin are probably not yet prepared for this - either psychologically, mentally or because of social, economic and educational reasons. Those born in Israel are mostly also from European culture origins as revealed in the following variable.

### Father's Continent of Birth

As indicated by the last variable, 72.8% of the families are of Western culture.

### Father's present occupation

Almost half of the officers reported that their father was either not working or that he had died. Of the remainder, the majority reported that their father were occupied as industry employees. Only 20 of the participants were sons of people working in a free occupational profession.

### Father's level of Education

As in other comparable maritime populations, here also, some 45.8% of the parents had only up to 8 years of schooling. Only a third of the officers' parents had had full secondary education or higher.

Table No. 4.3

### SOCIO-DEMOGRAPHIC DESCRIPTION OF THE SAMPLE'S POPULATION

Rank Group		Cadets	Junior Officers	First Officers	Masters & Chief	Total
Total Number in Sample		44	148	58	51	301
Marital Status	Single	34	70	8	6	118
	Married	10	78	50	45	183
Age Group	40 -	1	26	12	29	68
	30 - 39	8	36	34	20	98
	- 20	35	86	12	2	135
Officers' Education Level	Elem. School	1	6	1	4	12
	Part Secondary	3	34	10	9	56
	Finished High School	8	38	19	11	76
	Nautical High School	23	45	18	16	102
	Prof. College	3	8	4	1	16
	University	6	17	6	10	39
Years at Sea Work (Tenure)	- 3	40	65	2	-	107
	4 - 5	2	29	4	-	35
	6 - 8	1	22	22	2	47
	9 +	1	32	30	49	112
Shipping Company	Zim Co.	34	103	36	32	205
	El-Yam Co.	4	13	6	5	28
	Other Co's.	6	32	16	14	68
Continent of Birth	Israel	23	57	23	23	126
	Asia	1	10	1	4	16
	Africa	4	19	6	-	29
	Europe-America	16	62	28	24	130
Father's Continent of Birth	Israel	2	8	4	2	16
	Asia	5	17	2	5	29
	Africa	5	23	8	1	37
	Europe-America	32	100	44	43	219

Table No. 4.3 (Continued)

Rank Group		Cadets	Junior Officers	First Officers	Masters & Chief	Total
Total Number in Sample		44	148	58	51	301
Father's Present Occupation	No Work/dead	15	64	29	40	148
	Free Occupation	2	12	4	2	20
	Business	4	17	5	1	27
	Employee	6	12	9	1	28
	Industry	17	43	11	7	78
Father's Education Level	Elementary & N.A.	20	71	29	17	137
	Partial Secondary	8	27	12	14	61
	Full Secondary	7	26	7	8	48
	Professional College	2	6	3	1	12
	University	7	18	7	11	43
Does Wife or Girl Friend Work?	Single/No Friend	33	67	8	4	112
	Wife/Friend at Home	5	55	43	35	138
	Wife/Friend Works	6	26	7	12	51
Ownership of Flat/Residence	Parents' Flat	28	53	8	-	89
	Ego's Own Flat	7	70	40	46	163
	Not His own Flat	9	25	10	5	49
Regular Army Service	Navy Unit Service	23	57	32	31	143
	Other Unit Service	14	81	26	15	136
	No Service & N.A.	7	10	-	5	22

Wife's Work

As shown in the Table above, more than 60% of the officers were married men (189 out of the total 301) but only 51 of those had a working wife. This could be interpreted as either that the income was sufficient or that most of the officers' wives were not able to leave home because they had to care for their children.

Ownership of Flat

It appeared that most of those officers not living with their parents

owned their own flat; only some 15% of the sample lived in a rented residence.

#### Regular Army Service

The regulations under the Israeli Seamen's Law (1973) demand that any potential merchant officer, or cadet, should have completed regular army service. This requirement stems from national security reasons which derive from the fact that, basically, the country has been surrounded by enemies since 1948. Under such terms a person cannot be admitted to the merchant officers' occupation unless he had served in the regular military service. However, some had migrated to the country at an age where this service was not necessary, and some had been admitted under special arrangements with the army authorities, according to which their sea service was considered as if it were military service. We found that 279 of the entire sample did serve and, of these, more than half served in the army or navy.

#### 4.6 CONCLUSION

In this chapter we have gone into a detailed discussion of the procedures followed and the reasoning behind them. First, it was important to stress the special objective conditions which stood in the background of our research work and influenced the definition of the target population and the procedures and considerations to be taken when approaching the merchant marine officers. The 'time' factor was found important both for the definition of who is, or is not an 'active' officer, and on our wish to perform a longitudinal research study. It also impinged on the decision of which research tool and of what shape we should have to construct and use. It was, therefore, decided to approach every second merchant marine officer with a 'closed' questionnaire after having had a short discussion with every respondent in which the importance of a rigorous and systematic study of occupational matters demand that information and data be collected and analysed. It was also decided to return after five years to the personal files of the respondents and to the sea-time registrations handled by the S. & P.A. This information, actually gives us the data confirming the dependent variable of commitment and of the actual stay/quit behaviour of the population - as accumulated by an objective administrative shore agency.

After having analysed the reliability of the sample obtained, we concluded this chapter with a short description of the social-economic characteristics and features of the sampled population.

We are now set to find out the results of the various tests operated on the collected data, and find out whether our hypotheses and propositions were correct. This is done in the next two chapters. In the fifth chapter, we discuss the effects of the situational and organisational institutional environment while making the distinction between the stayers and leavers.

~~In the sixth chapter, we shall discuss the theoretical model and its structure~~ and we shall try to sustain the special propositions and hypotheses.

## CHAPTER FIVE

### THE EFFECTS OF INSTITUTIONAL AND ORGANISATIONAL ENVIRONMENT VARIABLES UPON BEHAVIOURAL INTENTIONS

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#### 5.1 Introduction

Before entering the web of propositions and hypotheses included in the theoretical model of which the situational and organisational environmental factors are considered to be <sup>of</sup> special importance, we shall try to investigate the effects of these variables and their relevance to this study.

In this chapter we assume that intentions and actual behaviour are closely related and, therefore, we start with the first stage of data analysis aimed at distinguishing between stayers and leavers, or the degrees of commitment among merchant marine officers. As already mentioned, this group of variables is practically neglected in the literature although it is mentioned in the unified model structured and investigated by Price and Bluedorn (1977 - 1982).

Drawing on Schneider (1978) the following question can be posed : Do situational and perception features interacting with personal characteristics, cause organisational commitment behaviour? On the same basis, we may pose the following question as well : If organisations create climates for the display of individual differences, are these differences realised in the behaviour of individual members and, therefore, predictable? At the present stage it is quite presumptuous to assume that organisations create different environments encouraging the display of different behaviours by individuals. It is quite clear that the organisations reward task performers at various levels with different rewards and "situational returns". This is done in order to compensate each employee according to his personal qualifications and assets invested in the exchange relationship on which the work contract is based and agreed. If this is true then this must be an assumption which hardly needs proof. Thus we remain with the question : What is caused by

what; does the individual's behaviour cause the different organisational climates or the reverse? The answer to this question will be given in the sixth chapter as a derivative of the theoretical model - if it is sustained. However, in the present chapter we would prefer to answer the first question which also seems the more fundamental of the two. For purposes of clarity, it is felt that this question should indicate the organisational-environmental as well as the situational factors. Do these factors have a clear affect upon employees' intentional and actual commitment behaviour? (See i.e. Wickens, 1978, who reached the conclusion that ... "legislation does effect the quit rate"...)

Katz (1978) had investigated the relationship between overall job satisfaction and five task dimensions (skill - variety, identity, significance, autonomy and feedback). His analysis shows that basically the strength of the relationship between satisfaction and each of the task dimensions depended both on job longevity and on organisational tenure of the individual. Drawing on Oldham (1976) and Oldham, Hackman and Pearce (1976), who found that the degree of employees' satisfaction with the contextual features of their work environment (i.e. peers, supervisors and organisational policies) was linked positively with challenging tasks, he (Katz, 1978) concluded by saying : "evidently, employees' dissatisfaction with the work context are sufficiently directed to the "richness" of their jobs and consequently respond less positively to the various task dimensions". He finds these results encouraging but still claims that little is known about employees' reactions to the different task characteristics when they "enter, experience, and adapt" to their particular jobs. He also concludes that a number of empirical studies (Crozier, 1964; Newman, 1975; Katz and Van Maanen, 1977) have shown that job satisfaction cannot be "viewed in isolation from institutional and social settings, for it is also a function of the situational setting surrounding the doing of work". Such a perspective



directs attention to the various aspects of the work situation in which employees work and not just the psychological predispositions, personality and demographic characteristics of the worker". On the other hand, although our main aim is not the study of job satisfaction, we do include this factor as a central phase of our theoretical process, which leads toward commitment. It is, therefore, assumed that situational environmental variables have a significant importance not only on job satisfaction (which is indirectly related to commitment) and also act as intervening variables in the process just as does the climate construct. This is defined by Drexler (1977) as an element "of organisational environment which is a construct that distinguishes organisations and one that should have organisation-specific variance".

Drawing on these assumptions, the present chapter tries to distinguish between various shipping companies, various task levels and career stages (and different ship departments), as the operational situational and institutional organisational environmental variables which intervene and affect the intentional and actual commitment behaviour of merchant marine officers.

## 5.2 DIFFERENTIATION BETWEEN THE LEAVERS AND STAYERS

Having encountered works such as Pettman's (1973), Price's (1977) and others of the same nature, it is clear that the first step in studying the turnover phenomenon rests in the accumulation of bi-correlate analysis. It is common practice to try and find out the nature of relationships between various variables and the dependent variable. The next step, usually found in the literature, is the field work of theoretical model building in which the researcher constructs a multidimensional approach that incorporates certain variables (already recognised and discovered from the earlier phases) into some kind or blend of multi-relational causality. This chapter is, therefore, dedicated to the first one of these phases, whereas in the next chapter we shall try to support the theoretical structure proposed in the earlier part of the study.

We have obtained and confirmed almost all the expected findings already mentioned in the literature by which we can differentiate between those officers who, within a period of five years, remained or left the seafaring job and occupation.

The data collected for this purpose is presented in Table 5.1 and ordered only by their Variable number as they appear in our research. The point is, therefore, the correlation exhibited (all of which have significance of  $p=5\%$  or less). The source of this data about the dependent variable (behavioural commitment in 1982 - five years after the participants had answered the questionnaire) are the registrations of sea-time of each sampled officer computed from ships' crew-lists, by the Shipping and Ports Administration.

Although possible, we decided not to collect data about seafarers' transfers

TABLE 5.1 - CORRELATION (PEARSON'S R) BETWEEN "ACTIVITY AFTER 5 YEARS"  
(VAR. 141) WITH OTHER VARIABLES (Where  $p = 0.1$ )

VAR. NO.	VARIABLE NAME	R	P (*)
003 (*)	Year of Birth (age)	-.12028	.0185
018 (*)	Wife's year of birth (age)	-.12084	.018
037	Sea-Rank group	.11329	.0499
050	Intention to Remain	-.12331	.0328
051	Present wage rank	.16904	.0033
053	Years as a Seafarer (Tenure)	.10866	.0601
069 (*)	(Importance) of Sailing with Foreigners	.12890	.0127
070	Sea-Life cause Turnover	.09895	.0871
072	Commitment Behaviour (Sea-Time) in 1976	.17468	.0024
075	Interest in Work	-.14454	.0122
090	Shipping Company (Employer)	-.10001	.0838
091	Shore Leaves Satisfaction	.11239	.0518
099 (*)	Rank on Last Voyage	-.15176	.0042
100	Interest in Work Importance	-.15350	.0077
101	Wage Conditions Importance	-.13844	.0164
104 (*)	Seeing the World Importance	-.10542	.0339
109	Job Search Ashore (active) recently	-.10641	.0657
114 (*)	Food Aboard Ship	-.10924	.0292
117 (*)	Recreation on Board Ship	-.09671	.0470
123 (*)	Independence Importance	-.11692	.0213
125 (*)	Social Relations on Board Ship Importance	-.09994	.0417
126	Other Seamen's Propensity to Quit	-.10268	.0758
131	Better Work Relations on Board Ship Importance	-.14411	.0125
140	More Responsibility of Command Importance	-.13343	.0208
(174	Work Ashore is more interesting than at sea	.09494	.1007
194	Participation in Evaluation of Sub- ordinates' output	.10766	.0626

(\*) Having been constrained by computer service limitations, these results are from S.P.S.S. procedures, and the others are the results of the S.A.S. procedure of analysis. Most of the results in this chapter are from S.P.S.S. runs and most of the results reported in the following chapter are from S.A.S. procedural analysis. For obtaining the S.A.S. output, the author is indebted to Mr. Habushi and Mrs. Roxane of the Computer Centre in the Israel Electricity Incorporation.

of turnover between the various Israeli Shipping Companies, for this did not appear to contribute to the main issue.

As mentioned by Price (1977) and by Bluedorn (1982 : 84), occupational tenure (variable No. 053) is correlated with either quitting or remaining in the job (variable No. 141, see Table No. 5.1), where the coefficient is 0.10866 and significant at  $p=.0601$ . As can be expected a very similar finding is "present wage rank" (when answering the research tool) which is also significantly correlated with the dependent variable ( $R=.16904$ ,  $p=.0033$ ). The interpretation of both findings could be that the longer the period of work experience, the more are the chances that the officer shall remain at sea. But the latter finding (that of salary) can be interpreted in more than one way; although this variable deals with money, and satisfaction with the level of salary, its direct meaning here is the close link between years at sea which potentially lead to higher sea ranks, higher salaries, responsibility and income. Therefore, the higher the income level, the more likely the officer shall remain at sea (positive relation).

Of closely related importance to the above to findings is the significant relationship of variable (No. 003) - Age (year of birth), and (No. 018) Age of spouse - (wife's year of birth), with our present dependent behavioural variable (No. 141). This brings us to the conclusion that the older the officer and, correspondingly, the older his wife, the less likely he is to quit or the more prone he is to stay at sea and try to earn higher amounts of annual income (Var. No. 003; this shows  $R= -0.12028$ ,  $p=.0185$ . Var. No. .018; shows  $R= -0.12084$ ,  $p=.018$ ). These findings are congruent with Hill's (1972 : 97-102).

We also find that there is a negative significant relationship between

present rank (Var. No. 099) and stay/quit behaviour. This means that the lower the rank the more prone the officer is to quit, or that the higher his rank the less likely it is that he would leave the sea ( $R = -0.15176$ ;  $p = .0042$ ).

The variables of commitment also show close relation with the behavioural dependent variable. There is a positive, significant, correlation between the length of sea-time by 1976 and quit/stay behaviour 5 years later. The interpretation which follows ( $R = 0.17468$ ,  $p = .0024$  - Var. No. 072), is that the longer the sea-time of an officer, during a given calendar year, the more likely it is that he would remain in his present sea work. Or in other words, the higher the seafarer's commitment behaviour at one point of time, the higher the chances are that this same behaviour will be found in the future.

The same conclusion is drawn from the relationship between "Plans to continue" (working) and actual behaviour, which implies that the longer the officer intends to remain at sea, the more likely it is that he would actually do so (Var. No. 050;  $R = -.12331$ ,  $p = .0328$ : the negative coefficient is because of the negative order of the direction of answers computed).

Further indications that our postulated model should later be found correct and valid, can be deduced from the variable of 'better work relations on board ship' (var. No. 131). The more importance an officer gives to improve the social and work relations on board the ship while at sea ( $R = -.14411$ ;  $p = 0.0125$ ), the less prone shall he be to remain, or the less he will be committed five years later. This variable hints quite clearly at the respondents' dissatisfaction of their expectations for better work relations which are probably contrasted with the policy of 'lazy monopoly' mentioned

in an earlier chapter. On the other hand, when there is a clear importance attached to improving his own level of responsibility, the less is his commitment behaviour after the five year period (var. No. 140,  $R = -.13343$ ;  $p = .0208$ ). The same conclusion can be drawn from the finding that, the more it is important for the officer to be 'independent' (var. No. 123,  $R = -.11692$ ,  $p = .0059$ ), the less committed is his behaviour after the same period of time.

A similar negative significant relationship is found between the behavioural commitment and the officers' 'interest in work' (var. No. 75,  $R = -.14454$   $p = .0122$ ). However the interpretation here, due to the order of the alternative answers in question No. 159 (var. No. 75), brings us to conclude that the more interesting the actual sea-work (for the officer), the more committed he is, as revealed by his behaviour of accumulated sea-time five years later. Or, in other words, the more the work is interesting, the more the officer will continue to sail and be involved in his work on board ship.

These conclusions are sustained in the analysis reported later in this work, although we use different tools for the statistical analysis.

To conclude this short summary of findings, we must also report a significant relationship between actual commitment behaviour (staying/quitting - as found after the five year period) and the officers' search for a job ashore (var. No. 109;  $R = -.10641$ ,  $p = .0657$ ), from which we learn that those who did search for such a job (when the questionnaire was administered), did actually leave or, at least, did less work during the fifth year later. As expected, variables of job satisfaction, working conditions, and employer (shipping company), also show significant correlations - this calls for the conclusion that the less satisfied is the officer with either (var. No. 91) shore leaves ( $R = .11239$ ,  $p = .0518$ ) or the less he is

satisfied with the care shown by the employer, the more prone he is to quit. The same is revealed in findings about the relation between recreation facilities on board the ship (var. No. 177) and food in the ships in which he is employed (var. No. 114).

It is now interesting to report our correlation analysis to the differentiation between those who, 5 years after participating in our field work of data gathering, are still active seamen and those who have already left. Although we are not aiming at finding a tool for predicting people's behaviour, we do wish to present some results with which we might distinguish the leavers from the stayers, or the stayers from the leavers. For this purpose we have run three correlation matrices. One for the whole sample; one for those who left seafaring after five years, and one for those who had remained.

TABLE NO. 5.2 - CORRELATIONS OF VARIOUS SIGNIFICANT VARIABLES WITH PRESENT COMMITMENT BEHAVIOUR (V.72) BY STAYERS AND LEAVERS.  
(N = 300) when P ≤ 0.1 (S.A.S. Analysis)

No.of Var.	Name of Variable	Entire Sampled Population		N = 181		Leavers Only		N = 119		Stayers Only	
		R	P	R	P	R	P	R	P	R	P
V.4	Continent of Birth	.12794	.0267	.14495	.0515	.07	.4(NS)				
V.53	Years as a Seafarer (Tenure)	.10740	.0632	.11918	.1100	.02	.7(NS)				
V.101	Wage conditions Imp.	-.13281	.0214	-.13331	.0736	-.04	.6(NS)				
V.119	Ship's Safety level	-.09461	.1020	-.07	.29(NS)	-.11	.2(NS)				
V.129	More wages importance	-.11338	.0498	-.13295	.0744	-.04	.6(NS)				
V.130	Loans from Employer Imp.	-.10865	.0602	-.07	.29(NS)	-.16068	.0809				
V.186	Friendly Superiors at Sea	-.10969	.0577	-.08	.24(NS)	-.13	.13(NS)				
V.108	Actual Job Search in Shipping	-.14970	.0094	-.15008	.0437	-.13	.13(NS)				
V.109	Actual job search ashore	-.17999	.0017	-.16007	.0255	-.16758	.0685				
V.50	Intention to remain	-.14976	.0094	-.23239	.0016	.00	.9(NS)				
V.106	Job opportunities in shipping	-.12207	.0146	-.06	.38(NS)	-.18473	.0043				
V.110	Fear of being redundant	-.10206	.0776	-.11	.12(NS)	-.04	.5(NS)				
V.126	Other Seamen's Propensity to quit	-.09488	.1010	-.10	.16(NS)	-.00	.9(NS)				
V.141	Commitment on 1982	.17468	.0024	(.0000)	1.(NS)	-.07	.4(NS)				
V.75	Interest in (sea) work	.07	.2(NS)	.04	.5(NS)	.19055	.0379				
V.100	Interest in work Importance	-.06	.2(NS)	-.08	.2(NS)	-.18855	.0400				
V.91	Shore-leavers satisfaction	-.04	.4(NS)	.02	.7(NS)	-.17674	.0545				
V.128	Intention to quit	-.05	.3(NS)	-.00	.9(NS)	-.16357	.0755				



The highest correlation obtained for all the sampled population is the negative link between present commitment behaviour (V. 72) and Actual Job Search Ashore (V. 109) where  $R = .17999$  ( $p = .0017$ ). This result is well expected but we could not give any reason for the fact that it is true for both those who may quit or remain after five years. It only means that this variable should not be used for the purpose of differentiating the leavers from the non-leavers.

The same remark, however, is not true when analysing the results of the relation between present and future commitment behaviour (Var. 72 with Var. 141). Here, although both correlations for leavers and stayers are insignificant, there exists for the entire population sampled, the positive correlation of  $R = .17468$  ( $p = .0024$ ). This means that present commitment activity can indicate future commitment. To have this notion sustained, we see that stayers do have higher interest in sea-work (Var. 75;  $R = .19055$ ;  $p = .0379$ ), whereas potential leavers do not. The same relates to importance of interest in work (Var. 100,  $R = .18855$ ;  $p = .0400$ ) and most revealing, therefore, are the results of the relations of present commitment behaviour with Intention to Quit (Var. 128) where for stayers  $R = .16357$  ( $p = .0755$ ).

It is of importance to note that the three variables (130, 108 and 106) yield negative correlations with present commitment behaviour (leaves from Employer, actual job search in shipping and job opportunities in shipping, respectively), whereas the same correlations are not significant when related to those who will have quitted within the following five years.

On the other hand, potential leavers show negative correlation between present commitment and intention to remain (Var. 50,  $R = .23239$ ,  $p = .0016$ ) opposite to what we found with intentions to quit (var. 128). Intentions

are found there of having clear and significant predictive power for the differentiation between the potential stayers and leavers. For purposes of deeper analysis, two additional tables are submitted, the one, which presents significant correlations of various variables with intention to remain (Var. 50 - Table 5.3) and the other, with intention to quit (Var. 128, Table 5.4).

Trying to differentiate between the stayers and leavers by "intentions to behave", we may use both alternative streams of analysis, either by intention to quit (Var. 128) or by intention to remain (Var. 50). Conclusions can be drawn from both.

Beginning with intention to stay (Var. No. 50), as data presented in Table 5.3, tenure at sea, marital status and year of marriage, have the highest significant correlations with intention to stay and their direction of relationship is negative. The higher the tenure, or the longer period of marriage, the lower the intention to stay. This fact is almost always given as the main reason for the quitting behaviour of seamen. It is obvious that the family influences one's decision to stay or quit. However, later on in this chapter we shall discover that although tenure and family do relate to quitting behaviour, or quitting intentions, their influence is quite small. Close examination of stayers and leavers suggests that neither want to stay ( $R = -.27448$  for leavers and  $R = -.25526$  for stayers). This simply means that tenure at sea influences one's intentions but one cannot distinguish the stayers from the leavers by this variable. The same conclusion can be drawn for the relation of intention to remain with "year of marriage". Here again  $R = -.21571$  for the entire sample, and for leavers  $R = -.22142$ , whereas  $R = -.19962$  for stayers. This means that both stayers and leavers are affected by the "marriage tenure". It is, nevertheless, important to notice that marriage does affect the leavers ( $R = -.24002$ ) but not the stayers

Table 5.3

SIGNIFICANT CORRELATIONS OF VARIOUS VARIABLES WITH INTENTION TO STAY  
(VAR. 50) BY LEAVERS AND STAYERS (N = 300) WHEN  $P \leq 0.1$  (S.A.S. PROCEDURE)

No. of Var.	Name of Variable	Entire Sampled Population		N = 181		Leavers Only		N = 119		Stayers Only	
		R	P	R	P	R	P	R	P	R	P
V.4	Continent of Birth	-.15845	.0060	-.20262	.0062	-.08	.3(N.S.)				
V.16	Marital Status	.20028	.0005	.24002	.0011	.13	.13(N.S.)				
V.17	Year of Marriage	-.21571	.0002	-.22142	.0027	-.19962	.0295				
V.37	Sea-rank group	-.17372	.0025	-.18268	.0138	-.12	.17(N.S.)				
V.53	Tenure as a seafarer	-.27415	.0001	-.27448	.0002	-.25526	.0051				
V.47	Relations with superiors on board ship	.12014	.0376	.099	.18(NS)	.14	.105(N.S.)				
V.62	Ship's social life Imp.	.10908	.0592	.03	.6(NS)	.18159	.0481				
V.75	Interest in work	.12146	.0355	.05	.4(NS)	.19476	.0338				
V.195	Participation in division of labour	-.10101	.0807	-.16618	.0254	-.00	.9 (N.S.)				
V.196	Participation - subordinates' appraisal	-.12378	.0321	-.16171	.0296	-.07	.3(N.S.)				
V.40	Job Satisfaction	.13053	.0237	.05	.4(N.S)	.19448	.0341				
V.45	Work Satisfaction	.16773	.0036	.12530	.0928	.20841	.0229				
V.144	Chances to change occupation	-.16897	.0035	-.19568	.0083	-.14	.12(N.S.)				
V.145	Chances to change Employer	-.16441	.0043	-.19425	.0088	-.13	.14(N.S.)				
V.128	(B.I.) to Quit	-.16348	.0045	-.11	.12(NS)	-.28380	.0018				
V.49	Social prestige ashore	.13494	.0194	.00	.9(NS)	.29821	.0010				
V.72	Sea-time in 1976	-.14976	.0094	-.23239	.0016	.00	.9(NS)				
V.141	Sea-time in 1982	-.12331	.0328	.0000	1.	-.04	.6(NS)				
V.90	Employer, Shipping Co.	-.08	.12(NS)	-.12647	.0809	-.05	.5(NS)				
V.51	Present wage rank	-.02	.6(NS)	-.13499	.0700	.16028	.0816				
V.119	Ship's safety level	.01	.7(NS)	.13895	.0621	.011	.9(NS)				
V.131	Better Work relations (Imp.)	.07	.17(NS)	.04	.5(NS)	.17303	.0599				
V.43	Wage satisfaction	.07	.17(NS)	-.14	.5(NS)	.21707	.0177				
V.143	Would send son to n/s	.09335	.1066	.01	.8(NS)	.20044	.0288				
V.30	Self status ashore	.05	.3(NS)	-.08	.2(NS)	.19574	.0329				

(R = not significant) - as in variable No. 16. These findings are quite contrary to common belief and scientific reports (such as in Price 1977).

For the differentiation of the stayers and leavers, we can use the variable of "present wage rank" (Var. 51), where although we find no significant R for the entire sampled population, there is negative R ( $= -.13499$ ) for leavers and positive R ( $= .16028$ ) for stayers. The same can be concluded from variable (45) work satisfaction. We can also say that the stayers are more satisfied with their job (V. 40,  $R = .19448$ ), whereas the leavers are indifferent ( $R = N.S.$ ).

Turning to Table No. 5.4, in which we have significant correlations of several variables with intention to quit (Var. 128), the picture is more complicated, mainly because of the number of variables included in this table. Here again we find some variables which are significantly related to quitting intentions, but small differences are found when tested for stayers or leavers. Such variables are Var. 70, "Sea-Life causes turnover", or Var. 170 "Being 'fed-up' with wandering", or Variables of propensity to change job, occupation and employer (var. No. 143, 144 and 145). To this list we can add also the prestige ashore of nautical officers (var. 49) or job opportunities in shipping (Var. 106) and other social reference variables (174), all of which influence one's intention to quit. Both stayers and leavers are influenced alike.

It is, of course, to be expected, that 'intention to remain' (Var. 50) has a significantly negative correlation with intention to quit. A clear difference is found among potential stayers and leavers. But as we shall see, it is true for the stayers but less so for the leavers. Strange and unexpected though it may be, we can distinguish between these stayers and

TABLE NO. 5.4 - CORRELATION OF VARIOUS SIGNIFICANT VARIABLES WITH INTENTION TO QUIT (VAR. 128) BY LEAVERS AND STAYERS (N = 300) WHEN  $P \leq 0.1$

No.	No. of Var.	Name of Variable	Entire Sampled Population		N = 181 Leavers Only		N = 119 Stayers Only	
			R	P	R	P	R	P
1	V.10	Father's present occupation	.13683	.0177	.17832	.0163	.06	.5(NS)
2	V.47	Relations with superiors on board	.12857	.0260	.20061	.0068	-.01	.8(NS)
3	V.51	Present Wage Rank	-.19030	.0009	-.24630	.0008	-.10	.2(NS)
4	V.70	Sea-Life causes turnover	.14469	.0121	.13263	.0751	.18324	.0461
5	V.75	Interest in work	-.12749	.0272	-.09	.2(NS)	-.22324	.0147
6	V.100	Interest in Work Importance	.37424	.0001	.46412	.0001	-.101	.2(NS)
7	V.101	Wage conditions Importance	.50949	.0001	.58438	.0001	.14	.12(NS)
8	V.119	Ship's Safety level	.45283	.0001	.53749	.0001	.22501	.0139
9	V.129	More Wages importance	.54362	.0001	.63965	.0001	.09	.3(NS)
10	V.130	Loans from employer importance	.50982	.0001	.64677	.0001	.06	.5(NS)
11	V.131	Better work relations importance	.60133	.0001	.71112	.0001	.03	.7(NS)
12	V.140	More responsibility of Command Importance	.47875	.0001	.60476	.0001	-.10	.2(NS)
13	V.164	Evaluation of occupational advancement	.11317	.0502	.119	.11(NS)	.11	.22(NS)
14	V.170	'Fed up' with wandering	.16124	.0051	.16025	.0312	.17655	.0548
15	V.186	Friendly superiors at sea	.41016	.0001	.51559	.0001	.14	.11(NS)
16	V.192	Explanations from superiors	.37938	.0001	.47207	.0001	.13	.15(NS)
17	V.193	Participation - ship's management	.27153	.0001	.34490	.0001	.11	.2(NS)
18	V.194	Participation - subordinates' work	.27537	.0001	.36089	.0001	.05	.5(NS)
19	V.195	Participation - division of labour	.24079	.0001	.34778	.0001	-.00	.99(NS)
20	V.196	Participation - work appraisal	.24710	.0001	.41624	.0001	-.09	.28(NS)
21	V.40	Job Satisfaction	-.09359	.1057	-.046	.5(NS)	-.20209	.0275

/Continued ...

TABLE 5.4 (Continued)

No.	No. of Var.	Name of Variable	Entire Sampled Population		N = 181	Leavers only	N = 119	Stayers Only
22	V.153	Agreement to Union's activity	.17833	.0019	.21365	.0039	.10	.2(NS)
23	V.143	Would send son to N.S.	.14550	.0116	.14727	.0479	.14	.11(NS)
24	V.144	Change occupation within 5 years	.32033	.0001	.31121	.0001	.35343	.0001
25	V.145	Change employer within 5 years	.28041	.0001	.28236	.0001	.27732	.0023
26	V.108	Job search in shipping	.52819	.0001	.55182	.0001	.44427	.0001
27	V.109	Job search ashore	.46567	.0001	.52706	.0001	.21224	.0205
28	V.50	Intention to remain	-.16348	.0045	-.113	.12(NS)	-.28380	.0018
29	V.30	Status ashore self evaluation	-.09827	.0893	-.12446	.0951	-.07	.4(NS)
30	V.49	N. Officers' prestige ashore	-.14443	.0123	-.13339	.0734	-.18307	.0463
31	V.71	Too much at sea bad for shore	.11506	.0465	.095	.20(NS)	.16673	.0699
32	V.106	Job opportunities in shipping	.45093	.0001	.47624	.0001	.40161	.0001
33	V.107	Job opportunities ashore	.34643	.0001	.40846	.0001	.16628	.0707
34	V.110	Fear from redundancy	.33357	.0001	.38061	.0001	.114	.2(NS)
35	V.172	Social esteem ashore	.10974	.0576	.10	.17(NS)	.13	.13(NS)
36	V.174	Work more interesting ashore	.15350	.0077	.14739	.0477	.17858	.0520
37	V.176	Work ashore causes more satisfaction	.14846	.0100	.16251	.0288	.12	.16(NS)
38	V.4	Continent of Birth	.08	.14(NS)	.17766	.0167	-.10698	.2(NS)
39	V.37	Sea-rank group	-.08	.13(NS)	-.17590	.0179	.11226	.2(NS)
40	V.90	Shipping Company Employer	-.09298	.1080	-.14877	.0456	.05	.5(NS)
41	V.48	Socialise with other seamen ashore	.05	.3(NS)	.15938	.0321	-.09	.2(NS)
42	V.62	Social life importance on board	-.09617	.0964	-.13438	.0713	-.08	.3(NS)
43	V.43	Wage satisfaction	.05	.3(NS)	.14144	.0575	-.11	.2(NS)
44	V.45	Work satisfaction	.03	.5(NS)	.13478	.0704	-.20832	.0230
45	V.84	Shore to sea income comparison	-.01	.7(NS)	-.08	.2(NS)	.26928	.0031
46	V.126	Other seamen's intentions to quit	.33357	.0001	.43984	.0001	-.18556	.0433
47	V.72	Present commitment behaviour	-.05	.3(NS)	-.00	.9(NS)	-.16357	.0755

leavers by their evaluation of the safety of ships on board which they sail (Var. 119). The same can be said by drawing on the correlation obtained in the relation of job search ashore where leavers are searching more than stayers (Var. No. 109). Although no significant correlation was found between Work-satisfaction (Var. 45) and intention to quit for the entire population in the sample, we can, nonetheless, see that the more satisfied potential leavers are, the more they want to quit, but that for potential stayers, the more they are satisfied, the less they want to quit. It is, therefore, only sensible to analyse the intention to quit variable (Var. 128) from another angle.

We have postulated that there is a justifiable reason for using 'behavioural-intention' (B.I.) as our dependent variable. It is considered wise at this stage to analyse the bivariate relationships obtained, without having yet proved our hypothesis. The former is, after all, a step toward achieving the latter. We shall, however, return to this matter later, in Chapter Six. It is, therefore, important to review the main results we have obtained about the relationships of various elements with intentions to remain or quit the work at sea (Var. No. 128). The officers were asked the following question:

"Given the proper opportunity (chance), would you want to quit your present work at sea? (1) Yes, very much. (2) I'd want to. (3) I'd hesitate/debate (translation into English is difficult) (4) I do not think that I'd want to (5) No way, I will not want to quit.

The officers were also asked the opposite question, not about their willingness to quit, but about their intentions to remain at sea - (var. No. 50).

This was phrased as follows :

'What is the total number of years you want to remain and work in your present place of work? (1) Up to retirement (2) 6-10 more years. (3) 3-5 more years. (4) Up to 3 more years at the most. (5) One more year at the most. (6) I do not have any clear plan now.'

We found that the relation between these two variables (intention to quit and intention to remain) is significant and negative ( $R = -.16348$ ,  $p = .0045$ ). The obvious conclusion, which is to be expected, is that the more prone one is to quit, the less one is prone to remain.

Before we discuss the deeper meanings of the data obtained in the matter of intentional behaviour, we consider it both useful and interesting to report in brief upon yet another examination we have tried to conduct: Applying the Guttman 'SSA I' test, we had to phrase the mapping sentence which is in itself the presentation of the postulated aggregate of hypotheses. The data is then computed thus : that the correlations matrix between the variables is used for measuring the distances between each and every variable with all the others, and they are then drawn on a two dimensional (or more, if wanted) chart, of the plain. The drawing of the variables according to their distances from each other shows the degree of relationship computed among them as well as with the dependent and independent variables. Due to the limits imposed on the research work in matters of budget and computer cpu, this test is technically unfinished. However, according to the following 'mapping sentence', the drawing we have obtained is interesting.



Mapping sentence :

The more favourable the      Organisational  
Situational      is for  
Environment

the employee, and the higher his      expectations      and

his      satisfaction      and his      propensities      ; and

his      job-search  
behaviour      is more intensive; and the

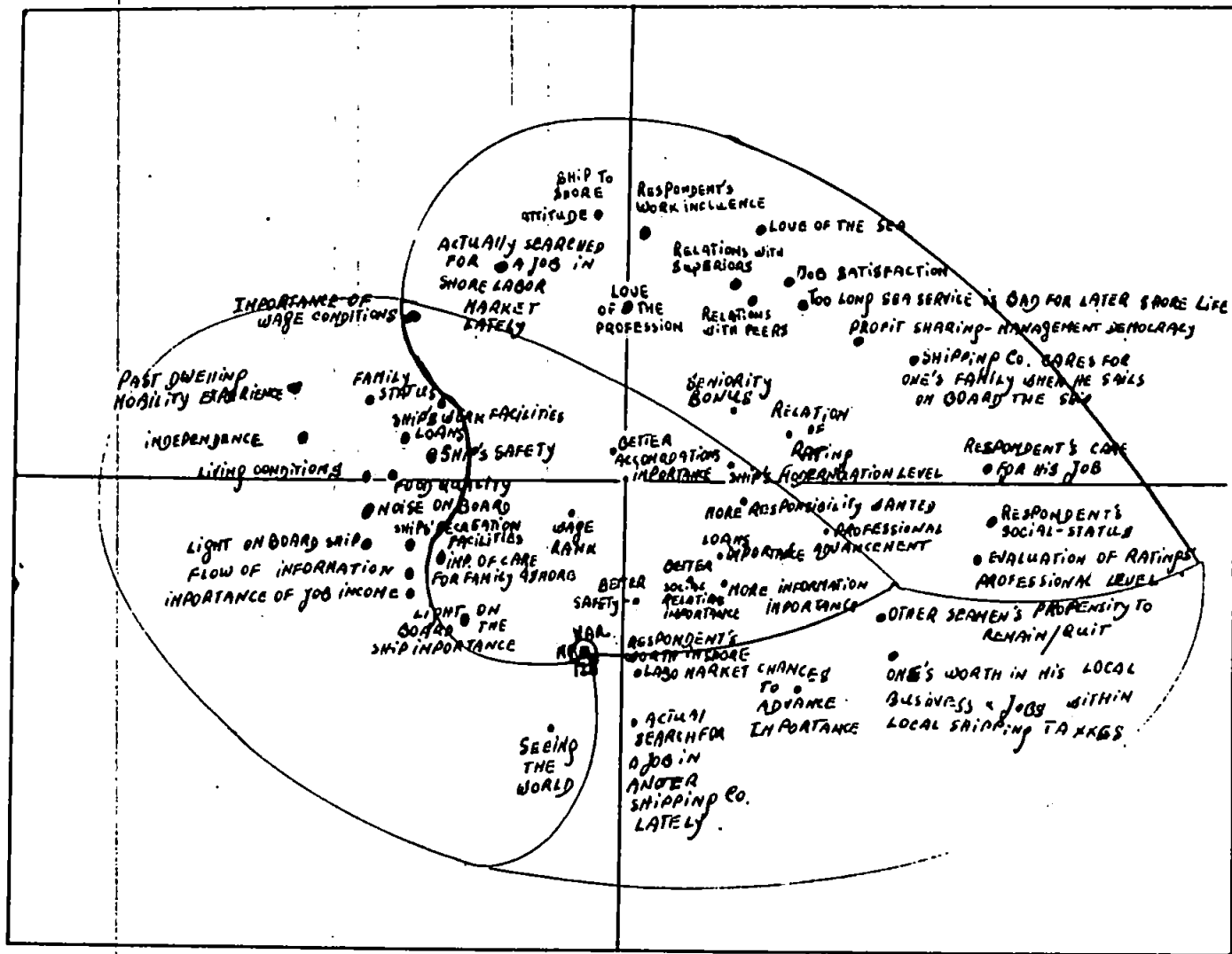
more dominant      the labour market job  
opportunities and the      → the  
social reference groups

more definite are his      behavioural  
intentions

Fig. No. 5.1

Two dimensional SSAI Outman test

(dependent variable / Intention to quit - var. No. 128)



Since our results are unfinished, we shall refrain from analysis of Fig. No. 5.1, in its fine detail. However, the main variables that show affinity with intention to quit, encourage us to believe that the suggested model we have drawn seems to be correct. To the lower right side of the dependent variable (No. 128) - 'intention to quit', we find variables that comprise the facet of labour market job opportunities, and evaluation of information and situation by reference groups. To the upper left area, from variable No. 128, we find variables which describe and define work conditions, job conditions and the shipping company's (employer's) attitudes and policy towards the seaman. To the middle upper section, we find the variables which define the seamen's evaluations of personal satisfaction from various job situations, social integration and satisfied needs.

Some of the variables, and their relation with intention to quit are interesting, even if we do not try to differentiate between leavers and stayers.

A result of considerable strength is found in the relationship evaluations of potential change after five years from time of participation in the study. We have asked the officers to answer the following question (Var. No. 145 - Q.053) : "I expect that within the next 5 years there is/are :

- (1) many chances that I will change employer
- (2) few chances that I will change employer
- (3) no chance that I will change employer

and again, we find a significant positive relationship with intentions to quit (Var. No. 128 -  $R = 0.28041$ ,  $p = 0$ ). With the same question, but evaluating the chances of changing occupation, the relationship is even stronger (Var. No. 144;  $R = 0.4437$ ,  $p = 0.0$ ).

TABLE NO. 5.5 - CORRELATIONS OF VARIOUS SIGNIFICANT VARIABLES WITH INTENTION  
TO QUIT (VAR. NO. 128)

Variable No. 128: Given the proper opportunity to work ashore, would you accept the job?		Very Much Yes	Would Debate	Do not want to	Total
Total answers		118	107	76	301
Var. No. 106	Very many opportunities	37	27	15	79
Ego's worth in	Many Opportunities.	43	48	19	110
Local Maritime	Some Opportunities	24	24	18	66
Labour Market	Hardly Any	8	4	5	17
	Non & No Answer	6	4	19	29
Var. No. 040	Very Much	26	39	33	98
Job	Exists/Some	54	50	35	139
Satisfaction	Small & No Answer	38	18	8	64
Var. No. 045	Very Satisfied	20	31	35	86
Work	Satisfied	74	60	34	139
Satisfaction	Not Particularly	19	14	3	36
	Not at All & No Answer	5	2	4	11
Var. No. 091	Very Satisfied	33	29	25	87
Shore Leaves	Satisfied	64	66	43	173
Satisfaction	Not Satisfied & No Answer	21	12	8	41
Var. No. 143	No	48	27	19	94
Would send	Yes	67	72	49	188
his son to	No Answer	3	8	8	19
Nautical H.S.					
Var. No. 108	No	101	94	59	254
Actual Job	Yes	17	12	8	37
Search Other	No Answer and No	59	8	9	76
Shipping Co's.					
Var. No. 131	Very Important	82	76	46	204
Better Social	Important	33	25	20	78
Relations	Little Importance	3	6	1	10
Aboard Ship	Non and No Answer	-	-	9	9
Importance					
Var. No. 109	No	67	91	57	215
Actual Job	Yes	49	16	8	73
Search ashore	No Answer	2	-	11	13
lately					
Var. No. 144	Many	63	16	7	86
Chances to	Some	26	43	19	88
quit occup.	Non and No Answer	29	48	50	127
next 5 years					

Continued ....

TABLE NO. 5.5 (Continued)

Var. No. 145	Many	64	20	11	95
Chance to	Some	30	42	26	98
quit Employer	Non and No Answer	24	45	39	108
next 5 years					
Var. No. 050	Up to Retirement	6	15	29	50
Plans to	6-10 more years	14	22	14	50
Continue &	3-5 more years	32	21	12	65
Remain as a	2 more years	14	9	1	24
Seafarer	1 more year	15	-	2	17
	No Plans and No Answer	37	40	18	95
Var. No. 141	Not Sailing	77	63	42	182
Activity	2 months	7	6	4	17
After 5 years	3-4 months	11	9	7	27
	5-6 months	5	10	7	22
	7 plus months	18	19	16	53
Var. No. 090	Zim Co.	73	77	55	205
Employing	El-Yam	16	7	5	28
Shipping Co.	All Others	29	23	16	68
Var. No. 099	Master	13	10	13	36
	1st Mate	7	12	11	30
	2nd Mate	17	10	6	33
	3rd Mate	13	18	11	42
	Radio Officer	17	6	4	27
	Chief Engineer	8	5	2	15
Rank	1st Engineer	11	10	4	18
	2nd Engineer	6	8	4	18
	3rd and 4th Engineer	13	11	10	34
	Electr. & Frig. Officers	7	6	3	16
	Catering	4	1	4	9
	Cadets	2	10	7	19

(SPSS Procedure)

As demonstrated in Table No. 5.5 and 5.4, we see that our theoretical postulates seems to be supported. The most revealing findings are concerned with job opportunities both in another shipping company and in a different occupation ashore. These are variables No. 106 and 107 with the following correlation coefficients; (Var. No. 106;  $R = 0.45093$ ,  $p = 0.0$ , and Var. No. 107;  $R = 0.34643$ ,  $p = 0.0$ ). It is clear that the higher result should be the opportunity within the merchant marine world, but it is of no less importance to notice that the lower result of correlation is equally significant (See Table No. 5.5).

The same significant relationships are found between variables of actual search for a job, either in another shipping company (Var. No. 108;  $R = 0.52819$ ,  $p = 0.0$ ). The main conclusion is that there is a significant dependence between actual search and intentions either to quit or remain as a seaman. This should, for the time being, sustain our postulate that our study could use behavioural intentions as the dependent variable.

As expected from the findings of previous works, and from our postulated model, we must investigate the relation between the propensity to leave if another chance arises and satisfaction. The officers were asked (Var. No. 040 - Q092) about the "amount of their satisfaction from present job?" (answers range from : (1) a lot, to ... (4) none at all) and a significant positive correlation is found ( $R = -0.09359$ ,  $p = 0.1$ , the negative coefficient is due to opposite order of answers of both variables). Although we have not found the same result between our dependent variable and work satisfaction (Var. No. 045), we did get a very high correlation coefficient between the two satisfaction variables (Var. No. 040 and Var. No. 045; ( $R = 0.71333$ ,  $p = 0.0$ ))

Another crucial and known variable is that of the 'reference group' and the social relations on board (Var. No. 131). Here we asked the officers (Q.306) : "What are the main things that must be attended to in order that seamen shall serve longer periods/life time, at sea? ... To improve working relationships - (1) most important ... (4) not important at all." In this case, we found that this relationship ( $R = 0.60133$ ,  $p = 0.0$ ) means that the more important it is to improve the working relationships, according to the officer's evaluations, the more prone he is to turn and leave.

In order to show that our postulated model is convincing, we must also demonstrate that there are significant relationships between variables of opportunity and not only with the dependent variables. Rather, we must show that there are significant relationships with most of the other variables in the process which lead to positive commitment, or to its negative form of quitting, and the important emphasis should be to show that this relation is with intentions to quit.

This aim is an important one and we shall pursue it in the next chapter when discussing our model in the light of our empirical field work.

### 5.3 MANAGEMENT TYPES OF SHIPPING COMPANIES AND THE INTENTION TO STAY OR QUIT

We already have sufficient evidence to suggest that a few of our propositions and our theoretical model may be found to be correct. We therefore believe that the complementary hypothesis concerning the organisational and situational environment should also be here discussed.

We shall define the environmental aspects (operationally) mainly by the "shipping company - as the employer" variable (Var. No. 090), and the situational aspects shall be defined operationally by variables of occupational tenure (Var. No. 053), the officer's rank and "department of the ship where

the officer works. Several stepwise regression tests were conducted. Since all the evidence leads us to conclude that, at least in our study, we may relate to the "intentions" variables as valid indicators for potential future behaviour of commitment or quitting, we chose variable No. 128 and the reasons are given later in the conclusions to this chapter.

Since we have two similar variables for the same intention, the one which asks the officer about his intention to quit (Var. No. 128), and the other, which asks about his intention to remain (Var. No. 050), or his plans for staying, it is only proper to compare these two variables before we enter into the analysis of the organisational and situational environmental effects. We believe that the combined picture will tell us more if we analyse both variables simultaneously. It is hoped, therefore, to obtain a better answer to the query whether there is or is not any difference between intentions to remain and intentions to quit.

We shall try to answer this question via two complementary stepwise regressions (See Tables No. 5.6 and No. 5.7).

The two regression tests were conducted with the same independent variables (Var. 004 to Var. 049, Var. 051 to Var. 127, Var. 129 to Var. 140). (Due to computer service limitations imposed on the present study, only 140 variables could be investigated). We shall relate our analysis only to these variables for our explanation of the variance between our two dependent variables (Var. 050, and Var. 128), and up to those variables which explain at least 1% of the variance (although we know that many of the other variables explain some of this - less than 1% - we shall neglect them in this analysis).

The first difference revealed with comparing these two tests is that the total of only 29.4% of the variance of intention to remain (Table No. 5.7)



TABLE NO. 5.6 - STEPWISE REGRESSION - FOR TOTAL POPULATION OF SAMPLE - WHERE  
THE d.v. IS : INTENTION TO QUIT (VAR. NO. 128)  
(includes only variables which explain at least 1% of the  
Variance)

Var. No.	Variable Name	Multiple R	R Square	R <sup>2</sup> Change	Simple R	Beta
131	Better Work - Relations aboard ship importance	.49522	.24525	.24525	.49522	.1696
106	Ego's Worth in Local Shipping labour Market	.54129	.29299	.04775	.40637	.1354
040	Job Satisfaction	.57597	.33174	.03874	-.10868	-.1467
122	Job Income Importance	.59266	.35124	.01951	.47991	.1256
089	Number of Jobs Ashore	.60714	.36862	.01738	.15613	.1279
051	Present Wage Rank	.61889	.38302	.01440	-.19319	-.1190
053	Years as Seafarer (Tenure)	.62873	.39531	.01228	.03178	.1990
080	Love of Profession	.63750	.40641	.01110	-.13324	-.1055
071	Too Long Service Period at sea is bad for one's ability to integrate ashore later	.64624	.41762	.01122	.14039	.1348

(SPSS Procedure)

whereas 41.8% of the variance of intention to quit is explained by only 9 variables in Tab.s No. 5.6 (8 variables less than in intention to stay).

The second point is that only two variables are common to both tests, namely, variable No. 053 - officers' occupational tenure (years at sea) - which appears as the first in explaining 10% of intention to remain (Table No. 5.7) but it is the seventh in explaining only 1.228% of the variance of the intention to quit variable (See Table No. 5.6).

TABLE NO. 5.7 - STEPWISE REGRESSION - FOR TOTAL POPULATION OF SAMPLE -  
WHERE THE d.v. IS : INTENTIONS TO REMAIN (VAR. NO. 050)  
(Includes only variables which explain up to 1% of the d.v.  
variance)

Var. No.	Variable Name	Multiple R	R Square	R <sup>2</sup> Change	Simple R	Beta
053	Years as Seafarer (Tenure)	.31625	.10001	.10001	-.31625	-.1967
072	Sea-time on 1976 (commitment)	.34661	.12014	.02013	-.17374	-.1676
052	Monthly % Savings (of income)	.37318	.13926	.01912	.12238	.1117
060	Ship Automation Level importance	.39654	.15724	.01798	.11468	.1246
004	Continent of Birth	.41414	.17151	.01427	-.16757	-.1265
062	Ship's Social Life Importance	.42965	.18460	.01309	.10403	.1083
080	Love of Profession	.44361	.10679	.01219	.10114	.0866
049	Seamen's Status Ashore	.45328	.20546	.00867	.12961	.0727
090	Shipping Company (Employer)	.46237	.21379	.00833	-.07795	-.1173
011	No. of Brothers in Family	.47070	.22156	.00777	-.11370	-.0617
076	Free Time on Board Ship	.47834	.22881	.00725	.14899	.1201
088	Problems ashore	.48534	.23555	.00674	.06247	.2001
081	Social Atmosphere on board	.49242	.24248	.00693	-.00954	-.1285
114	Food on Board the Ship	.49804	.24804	.00556	-.00544	-.2200
113	Rest Facilities on Board	.52180	.27288	.02424	.09545	.2818
125	Social Relations on Board Ship Importance	.53269	.28376	.01148	.13100	.1202
105	No. of Flats changed when a seafarer (residence turnover)	.54211	.29389	.01012	-.18078	-.1454

(SPSS Procedure)

The second common variable is "love of profession" (Var. No. 80) which is the seventh in explaining only 1.219% of the intention to remain variance ( $R = 0.10114$ ), whereas it is the eighth variable that explains 1.11% of the intention to quit variance ( $R = -0.13324$ ). The interpretation of these two

findings should indicate that :

- (a) Tenure explains more of the intention to quit than of the intention to remain.
- (b) The stronger the love of the seafaring occupation, the weaker the intention to quit (which is quite understandable)

Furthermore, most of the variables which explain the variance of intention to quit, are not those which explain variance of the intention to remain. This brings us to the conclusion that there must be a continuum between intentions to remain and to quit. This exists between the actual behaviour that stems from these intentions as we have concluded from the literary review - and that indicated by the complementary effects of commitment and quitting behaviour.

Whereas intentions to quit are mainly explained by variables of expectancy (unmet) and dissatisfaction (mostly economical), coupled with the evaluations that the officer is able to find another job in the maritime and shipping labour market, which fits almost entirely with our postulated model, we find that intentions to stay/remain are mostly explained by economic rewards and commitment behaviour, on the one hand, with job situation, environment and reference social groups (ties), on the other. This is also a clear indication that our model and the hypotheses must be correct.

Considering the regression in which we have the officers' intention to quit (Table No. 5.4), we can claim that in general it includes the skeleton of the entire structure of our model. The first and highest terms of its capability to explain the variance of the dependent variable is (Var. No. 131) - "better social relations on board ship importance". This is contrary to

the idea shared by many maritime shore managers and by maritime scientists as well, that the main factor that causes the officers' turnover is the officer's family, the pressures from one's family and social reference groups and ties ashore. We find that expectations for a better social milieu on board should be regarded as the main cause of such behaviour. The variable which empirically stands for family pressures to leave the sea does not appear to be that important at all. However, the second variable in order and power of explanation of intentions to quit, is one's evaluation of potential capability to find a job in another shipping company. The third variable is job satisfaction, or actually job dissatisfaction ( $R = -0.10868$ ; negative relation), and the fourth variable (Var. No. 122) is one's income (pecuniary job rewards). Next comes the variable (No. 89) which is "number of jobs ashore" - (before the respondent began his seafaring occupation), which exhibits the notion that people who are more experienced with past job changes are more prone to change their present job (this finding is well known in the literature). Then comes another situational variable of job rewards - "present wage rank" - which includes the officer's wife's income as well ( $R = -0.19319$ ). This means simply that the higher one's income level, the more prone one is to quit (also found in the literature reviewed). We then find tenure and attitude toward the occupation, that one is more prone to quit if occupational expectations are unmet. These findings are mentioned in many of the research works encountered by the present author and shall therefore not be re-examined here.

What strikes us most is that the first variable mentioned above (Table No. 5.5) was not family pressure but the "social atmosphere of better work relations on board ship importance". Another stepwise regression was, therefore, conducted when the dependent variable was (Var. No. 131) "better work relations aboard ship importance" (See Table No. 5.6). From this test

TABLE NO. 5.8 - STEPWISE REGRESSION - FOR TOTAL POPULATION OF SAMPLE-  
WHERE THE d.v. IS : BETTER WORK RELATIONS ABOARD SHIP  
IMPORTANCE (VAR. NO. 131)  
(Includes only variables which explain at least 1% of d.v.  
variance)

Var. No.	Variable Name	Multiple R	R Square	R Change	Simple R	Beta
140	More Responsibility of Command Importance	.79280	.62854	.62854	.79280	.301
134	Better accommodations Importance	.86568	.74940	.12086	.78730	.170
129	More Wage Importance	.88015	.77466	.02526	.75830	.121
133	Ship - Shore Offices Attitude	.89067	.79329	.01863	.78126	.121
125	Social Relations on board ship Importance	.89641	.80356	.01026	.65061	.139

(SPSS Procedure)

we understand that what explains this need or expectation is actually included in very few expectations from job situations. These very few variables do after all, explain 80.4% of the variance of Var. No. 131. We are, therefore, led to conclude that higher needs such as responsibility of command, better accommodations and wages, and the relations between ship and bodies ashore (of the employing organisation), must be included. However, this result means something more. It simply says that good work relations on board the ship must depend (and so they are thought to be) upon the power of the senior officers to command. The important point is that it is felt that the Master of the ship does not have this power, although it is his duty. These findings sustain the works of Rogemma (1970). Can we draw any conclusion from comparing the same stepwise regression test for officers of the different shipping companies? Are deck officers' reasons for commitment or quitting behaviour or intentions similar or different from those reasons

and causes which bring to the same resulting behaviour and intentions amongst engine officers?

When viewing the officers who work in the three types of Israeli shipping companies - as described in an earlier Chapter - we found out from our data that Zim Co. officers are concerned with their occupational values and capability to transfer quite easily to any one of the other shipping companies of the Israeli merchant industry. Since this is a large shipping company, the officer is but an organisational - bureaucratically identified number, and he is treated accordingly. It is quite well known in Israeli shipping industry that small shipping companies almost always try to "forget" to prepare for new manpower reserves, - a step which <sup>in</sup> the Israeli largest Zim company is not considered feasible. These officers are almost always offered jobs with sometime quicker professional advancement and higher pay by the smaller shipping companies. This was also found to explain 38.8% of the variance of officers' intentions to quit. Next to these two variables comes the job satisfaction and income expectations which, in other words, points to the Zim Co. officers' expectations of rank - advancement and job outcomes. As we see (Table No. 5.9), eight variables, the majority of which are evaluations of one's self and expectations explain 48.8% of the variance of quitting intentions..

On the other hand, El-Yam Shipping Co. is much closer to the type of risk averse; its officers show that the main reasons which explain quitting intentions are not based on expectations. Rather, these variables are one's occupational assets such as social, economic, family status and origin, by which the officer is evaluated in this shipping company. Also are included here (See Table 5.10) variables of job situation and social cohesion among officers on board. As indicated, we have here eleven variables which

TABLE NO. 5.9 - STEPWISE REGRESSION - ZIM CO. OFFICERS ONLY (ALL RANKS)  
 - WHERE THE d.v. IS: INTENTION TO QUIT (VAR. NO. 128)  
 (Includes only variables which explain up to at least 1% of the Variance)

Var. No.	Variable Name	Multiple R	R Square	R <sup>2</sup> Change	Simple R	Beta
108	Actually Searched for a Job in another Shipping Co. lately	.55355	.30642	.30642	.55355	-.204
106	Ego's Worth in Local Shipping Labour Market	.59840	.35808	.05166	.53219	.342
040	Job Satisfaction	.62670	.39275	.03467	-.07909	-.209
122	Job Income Importance	.65724	.43197	.03921	.55026	.205
083	Kind of Work on board the ship	.67075	.44991	.01795	-.13767	.014
089	No. of Jobs Ashore (before being a Seafarer)	.68297	.46644	.01653	.11360	.133
062	Ship's Social Life Importance	.69157	.47826	.01182	-.13735	-.015
060	Ship's Automation Level Importance	.69875	.48825	.00999	.08025	.191

(SPSS Procedure)

explain 97.8% of the "intention to quit" variance. This fits in with the atmosphere in this, one-family owned, traditionally-managed shipping company where most of its people know that obedience and devotion to work, and to the job, on the one hand, and proper family life on the other, are considered to be important factors determining how each officer is treated and evaluated in addition to the necessary professional seamanship, and standards of conduct and behaviour. Each individual is known here personally and his social background, family status and life style are closely scrutinised. This is why the most revealing variable of variance-

TABLE NO. 5.10 - STEPWISE REGRESSION - EL YAM CO. OFFICERS ONLY (ALL RANKS)  
 WHERE THE d.v. IS: INTENTION TO QUIT (VAR. NO. 128)  
 (Includes only Variables which explain up to at least 1% of  
 the Variance)

Var. No.	Variable Name	Multiple R	R Square	R <sup>2</sup> Change	Simple R	Beta
140	More Responsibility of Command Importance	.82378	.67861	.67861	.82378	1.606
010	Father's Education	.85251	.72677	.04816	.30039	.013
017	Year of Marriage	.88048	.77524	.04847	-.27742	-1.665
016	Marital Status	.90434	.81784	.04260	.20215	-1.741
046	Relations with Peers	.92689	.85913	.04130	-.19059	-.335
089	No. of Jobs ashore (before becoming a seafarer)	.95071	.90385	.04472	.28705	.573
130	Loans (from employer) Importance	.96020	.92198	.01812	.75918	-.768
075	Interest in (his) work	.96922	.93938	.01740	.11944	-.301
067	Officers' (Relations) to Cadets Importance	.97664	.95382	.01444	-.01169	.274
088	Problems (ego has) ashore	.98248	.96526	.01144	-.16532	-.130
125	Social Relations Aboard the Ship Importance	.98898	.97807	.01282	-.11445	-.122

(SPSS Procedure)

explanation is the need for "more responsibility of command importance" since every step and task is being directed and planned for in advance by the shore management - most of which comprises ex-mariners. When analysing this finding it was unclear at the beginning why it is that this is the variable which explains such a large portion of the variance; over 67% of it (See Table No. 5.10). A number of interviews with masters and chief engineering officers who still are employees in this company, as well as with those who previously worked as its employees, revealed that most of the people who did quit El-Yam had some sharp disagreement with the shore



management in matters of responsibility as to how to manage the ship's daily routine. Centralisation is a very strong component in the management policy and decision making of this shipping company. It is not uncommon procedure for a new command to be given to a master only after he has been summoned to meet the owner of the company, although the officer has been checked very carefully for quite a period of time. The relatively small number of ships and officers' jobs demand that a strict advancement procedure be activated which in turn stipulates close touch with each officer under strict bureaucratic procedures. Coupled with the fact that most voyages are long distance ones, it is vital to ensure that the individual officer can stand family pressures, on the one hand, and, on the other, the need for good relations with his peers and with cadets on board as well. With this information we can better understand the causal reasons for quitting intentions as revealed in Table No. 5.10.

Analysis of Table No. 5.11, where a stepwise regression for all officers of every other shipping company is presented, reveals the notion that these officers work and quit mostly because of pecuniary reasons. Here 16 variables explain 69.38% of the variance of the intention to quit, and 35.7% are explained directly by such matters as income, loans, wage conditions and past shore experiences of employment prior to the period of becoming a seafarer. The temporary relations of employment in these shipping companies explain the relative importance of money and income rewards in the regression. The officers are interested in immediate rewards and in information about the companies business intentions as well. Since these small shipping companies employ so many foreigners (as we have already seen) the social atmosphere on board is vitally important. Moreover, one's rank and the automation level of the ship are important for they include one's job situation and the benefits obtained from one's job. As if to

TABLE NO. 5.11 - STEPWISE REGRESSION - ALL OTHER SHIPPING COMPANIES' OFFICERS (ALL RANKS) - WHERE THE d.v. IS; INTENTION TO QUIT (VAR. NO. 128). (Includes only Variables which explain up to at least 1% of the Variance)

Var. No.		Multiple R	R Square	R <sup>2</sup> Change	Simple R	Beta
130	Loans (from Employer) Importance	.51672	.26700	.26700	.51672	.2487
089	No. of Jobs Ashore (before becoming a seafarer)	.56941	.32422	.05722	.30029	.2226
101	Wages Conditions Importance	.59747	.35697	.03275	.20520	.2967
071	Too Long (period of service) at sea is bad for (integration) in shore life after the seafarer has retired/quitted	.63074	.39783	.04086	.20612	.0507
047	Relations with (respondents) superiors	.66594	.44348	.04565	-.15167	-.1337
081	Social Atmosphere aboard ship	.69655	.48518	.04170	.16916	-.1427
038	Influence on (respondent's) work	.71936	.51749	.03231	.07346	.1523
010	Father's Education	.73661	.54259	.02511	.13545	.1065
051	Present Wage Rank	.75359	.56790	.02531	-.22504	-.2833
037	Sea Rank Group	.76802	.58986	.02196	-.10746	.0826
112	Information of (employing) Shipping Co.	.78224	.61190	.02205	-.18248	-.1983
060	Ship's Automation Level Importance	.79290	.62868	.01678	-.09171	-.1394
080	Love of Profession	.80423	.64679	.01810	-.19509	-.1745
004	Continent (place) of birth	.81304	.66104	.01425	.15937	.1764
129	More Wages Importance	.82056	.67332	.01228	.37779	.3470
109	Respondent actually searched for a job ashore lately	.83293	.69377	.02045	.08701	-.2853
136	Better Safety (measures on board ship) Imp.	.83830	.70275	.00899	.17583	.2526
040	Job Satisfaction	.84329	.71114	.00839	-.25812	-.126
063	No. of Ports during Voyage of Ship Imp.	.84909	.72095	.00981	-.19136	-.13
053	Years as Seafarer (ten.)	.85717	.73302	.01207	-.03542	.23
126	Others' propensity to leave	.86281	.74444	.01142	.04253	.16

(SPSS Procedure)

epitomise this body of officers here in these "risk prone" type of shipping companies we find the element of job-search ashore as a factor which explains almost 10% of the variance. It is of little importance whether the officer is satisfied with his job or whether the ships stop at many ports for goods. The study of Table No. 5.11 suggests the conclusion that the temporary relationships between employer and employee are mutual. Each side expects to obtain as much as possible from the other and to maximise instrumental returns for minimum investments. This is why the officers who are employees of such shipping companies continually watch and study events that happen ashore, either within their own company or in the shore based industry labour market.

Considering the last three tables together, we arrive at the conclusion that there are clear distinctive features of the organisational-environmental influences. Whereas in the national shipping company one is an atom, a bureaucratic number, in the Zim Co. everything concerning the employee is handled according to one's 'IBM-No.' and not even by one's name nor by the seaman's book number. One is always searching and evaluating one's potential employment in other shipping companies where, presumably, more personal touch and better pay or faster rank advancement is probable. In the risk averse company, unlike the bureaucratic procedures of the Zim. Co. management style, it is not enough to have a qualifying certificate of an officer. Here one is judged by one's superiors not only according to one's objective rank, nor even by one's performance, but according to one's devotion and commitment to job, work and employing company. In the risk prone group of shipping companies, although there is quite a variety of styles, in general the relations between employer and employee are based mainly upon the give and take of pecuniary commodities and of the constant feeling - mostly on the side of the employee - of redundancy and temporary employment. Although

we are not trying here to define the three types of differences in the causal determinants and antecedents which explain nautical officers' intentions to leave (or stay). It is obvious that the first variable in the three regressions is most representative of the main differences. Whereas in the large national company the main cause for officers' quitting intention is their undefined relative status in the organisation and their constant search for information and evaluation of personal worth in the maritime labour market, the risk averse company officers need more responsibility and autonomous professional decision-making as specified in the literature by the term 'higher order needs'. The officers of the risk prone shipping company are searching for immediate pecuniary rewards. Another striking element is the personal relations the officers have (or do not have) with peers and superiors on board. In the large bureaucratic company there is a considerable importance attached to general social relations (Var. No. 062, the 7th in order - 1.1% of variance explained;  $R = -0.13735$ ) which can be interpreted by concluding that the more it is important for the officer to have positive social relations when on board the more prone he is to quit if this need is not satisfied; these relations are usually practically non-existent (although very few foreigners serve in officers' jobs on 'Zim' ships). In the El-Yam Co. we have "relation to peers" as an explanatory variable (of 4.1% of the d.v's variance) and a negative correlation coefficient ( $R = -0.19059$ ), the meaning of which is that the better are the relationships with one's peers, the less are the intentions to quit. These relations are nourished in this shipping company for everyone knows that he is dependent on his peers in attaining better performance which is so important for one's survival and chances to advance in rank. Hence, even relations with cadets have their importance here. It is, therefore, so much clearer when we study the officers of the risk prone companies and their main reasons for quitting intentions, to find that the main kind of

social relations which are important are those with one's superiors - who are judging one's fate on the ship within admittedly short periods of time and according to performance only. Therefore, the rewards are of a concrete and immediate nature. It is, therefore, so much more interesting to notice that (Var. No. 081) 'social atmosphere on board' stands next in importance to relations to superiors here (See Table 5.11). This variable was operationalised by a question set in the following form : "As you know, there are many causes that attract people to sea work. Please state your evaluation of the effects of the following elements upon longer periods of service at sea : "Social relations and the atmosphere on board ship" ((1) a lot ..... (3) not at all). What this finding means, therefore, is that the more it affects the seaman, the more prone they are to quit. For we know that the social relations on board these ships are practically non-existent. There are several reasons for this. One is that most of the officers have no ties, neither personal nor moral, to the risk prone shipping company. They are sailing there only on a temporary basis, they were not developing their occupational career in these companies. Rather, what their real worth lies in their certificate of competency and in that alone. Furthermore, one sails in such a shipping company with so many foreigners, that social relations are poor. Officers who are in need of social relations may intend to quit. Many of the officers who are found sailing on these ships are also either working in a shore based job of a temporary nature or are sailing on one voyage contracts, or as 'one voyage replacement' officers. Many of these are in some of the actual quitting stages and are 'marginal employees'. They are still seamen, yet they have occupational commitments ashore as well.

#### 5.4 OFFICERS' RANK AND THE INTENTION TO STAY OR LEAVE

Let us now turn to the job situational factors and antecedents causing the intention to quit. This group of factors are related to the extent of officers' time on board the ship. It is well known in the industry that one's rank is the basis for one's rewards, job and work conditions and situations such as income, shifts, hours of work and leisure, responsibility, advancement (rate and pace), and influence on work and mode of carrying out one's job, autonomy, participation in decision making etc. For this purpose of analysis we have divided the sample into two groups : the first includes all the seniors (Master, first mate and Chief engineer and the first engineering officer) while the second group of officers are all the others whom we call the 'juniors', (including cadets, radio officers as well as catering officers - up to the degree of 2nd officer). The same regression tests were conducted for the two groups of officers (by rank) using the same independent variables (as in the previous tests) where rank is the intervening variable and intention to quit is the dependent variable (Var. No. 128).

Comparison of both tests (See Table No. 5.12 and 5.13) shows that the senior officers' regression test includes 18 variables which explain the total of 56.3% of variance. The variance of the dependent variable of intention to quit among the junior officers is explained by 9 variables to the total of 51%. Apart from this formal difference there are clear differences in contents.

Only two variables appear to be common to both tests. The first is that of job satisfaction and the second is that of wage rank. Whereas job satisfaction explains some 10% of the variance of intention to quit among senior officers it is the strongest variance explanation negatively related to the dependent variable ( $R = -0.32233$ ). This leads to the interpretation

TABLE NO. 5.12 - STEPWISE REGRESSION - SENIOR OFFICERS 1st AND HIGHER, ALL DEPARTMENTS AND ALL SHIPPING COMPANIES - WHERE THE d.v. IS : INTENTION TO QUIT (VAR. NO. 128)  
(Includes only variables which explain up to at least 1% of the variance)

Var. No.	Variable Name	Multiple R	R Square	R <sup>2</sup> Change	Simple R	Beta
040	Job Satisfaction	.32233	.10390	.10390	-.32233	-.28
108	Actually searched (for a job ashore lately	.43179	.18644	.08254	.29801	.57
100	Interest in work Importance	.51106	.26118	.07474	-.26302	-.49
122	Job Income Importance	.54592	.29803	.03685	.22241	.33
071	Too long Service (period) at Sea (is) bad for integration ashore (after) one has qualified	.57905	.33530	.03727	.23699	.38
051	Present Wages Rank	.60277	.36334	.02804	-.16149	-.27
038	Influence on (ego's) work	.61933	.38357	.02024	.06969	.11
105	No. of Flats changed while (being a) seafarer	.63592	.40439	.02082	.24106	.16
067	Officers' (relations) to Cadets Importance	.65633	.43076	.02637	-.25337	-.26
046	(Social) Relations to Peers	.66772	.44585	.01509	.03448	.41
062	Ship's Social Life Importance	.67903	.46108	.01523	-.12385	-.09
011	No. of Brothers in family	.69054	.47684	.01576	.31436	.13
081	Social atmospheres aboard ship	.70332	.49466	.01782	.04133	.02
109	Actually searched for a job ashore lately	.71454	.51057	.01591	.09283	-.52
070	Sea-life cause turnover	.72469	.52517	.01460	.21539	-.50
076	(Activity) Free Time aboard ship	.73254	.53662	.01145	-.24999	-.06
037	Sea-Rank Group	.74021	.54790	.01128	.07707	-.15
053	Years as a Seafarer (Tenure)	.75028	.56292	.01502	.18235	.12

(SPSS Procedure)

that the main reason for senior officers' quitting intention is the lack of job satisfaction. The parallel reason for junior officers' intention to quit is the demand and need for better work relations on board the ship (Var. No. 131). This variable explains almost 37% of the variance of quitting intentions among the juniors who think that in order to remain at sea the work-relations on board must be improved ( $R = 0.60703$ ). The general interpretation of these findings point to the difference of job situation between the two levels. The seniors need job satisfaction whereas the juniors need better work relations. This finding was not a complete and unexpected surprise after reviewing the verbal answers given by the officers when interviewed prior to writing their answers to the questionnaire.

The second variable which appears in both regression tests is perfectly understandable. The senior officers, who are free to look around for advancement either in their job or money rewards, search actively for a job in another shipping company. The juniors are only evaluating their worth in the local maritime labour market. The third variable also highlights the differences between the two groups. The seniors require their work to be interesting, otherwise they intend to quit ( $R = -0.26302$ ,  $p = 0.0$ ), whereas the juniors need job satisfaction - a more general need than 'interesting work'. The fourth variable indicates the importance of the pecuniary rewards. The seniors' present need for income ( $R = 0.22341$ ,  $p = 0.0$ ) is one of their other rewards. The juniors' present wage rate is, on the other hand, a reason for potential quitting ( $R = -0.20256$ ,  $p = 0.0$ ), which is the opposite case. The difference lies in the fact that the juniors would not quit if income is so salient for them, but the seniors see this reward as one of many kinds of rewards, and in itself it is not enough.

Another difference is revealed when analysis of the regression tests is done. This suggests that the juniors who thought of studying and learning



TABLE NO. 5.13 - STEPWISE REGRESSION - JUNIOR OFFICERS UP TO 2ND, ALL DEPARTMENTS, AND ALL SHIPPING COMPANIES - WHERE THE d.v. IS: INTENTION TO QUIT (VAR. NO. 128).  
(Includes only Variables which explain up to at least 1% of the Variance)

Var. No.	Variable Name	Multiple R	R Square	R <sup>2</sup> Change	Simple R	Beta
131	Better Work - Relations aboard ship Importance	.60703	.36484	.36484	.60703	.032
106	Ego's Worth in Local shipping labour Market	.63852	.40771	.03923	.46951	.188
040	Job Satisfaction	.65905	.43435	.02664	-.06396	-.068
051	Present Wages Rank	.66988	.44874	.01439	-.20256	-.149
103	Study a Profession Importance	.68132	.46420	.01545	.40087	.203
134	Better Ship Accommodation Importance	.68879	.47443	.01023	.59283	.212
089	No. of Jobs ashore (before ego has become a seafarer)	.69720	.48608	.01165	.14962	.027
083	Kind of work (to be done) on board (the) ship	.70729	.50026	.01417	-.10422	-.084
120	Job/Work Facilities	.71412	.50996	.00970	.51956	.159

(SPSS Procedure)

a (marine-seaman's) profession as the reason for entering the marine core, ( $R = 0.40087$ ,  $p = 0.0$ ), the more it was their main reason (to study a profession) the less they intend to quit. The seventh variable in order of explanatory power (See Table 5.12) is the need to be able to influence one's work (oneself). Although the correlation coefficient is not significant, the tendency shows that the more the officer has influence on his work, the more prone he is to leave.

Taking rank and seniority at sea as an intervening variable shows some clear differences in the intention to quit. These differences are to be attached to rank and job situation. Whereas the seniors need job satisfaction, and

the ability to influence in the job they have, the juniors need, more than anything else, better work relationships. The seniors need to have social relations with peers. The need for general social relations is as important to the seniors, especially for those who think that most of the time on board they do not always have work to do, and are therefore often bored (See Var. No. 076,  $R = -0.24999$ ,  $p = 0.0$ ). The juniors need first of all better working relations; they do not actively search for another job in the local maritime labour market, yet they try to assess their value in this potential alternative opportunity source. Two intervening variables show the influence of rank and job situation upon intentions; one's need for better accommodation (they still are living in pairs in their ship cabins - for, as we have seen, the ships are mostly old) and the kind of work which has much influence upon the attractiveness or otherwise toward one's intentions (See Tables No. 5.12 and 5.13).

#### 5.5 COMBINED EFFECTS OF INTENTIONAL BEHAVIOUR AMONG OFFICERS BY SHIPPING COMPANY AND BY SHIP DEPARTMENT

In the previous parts of this chapter, we have shown that there is a clear distinction between officers employed by the three types of shipping companies. This distinction is revealed mostly by their attitudes and relation toward the rewards and expectations from work, the social and managerial atmosphere. We have also been able to find clear differences among the officers according to the vertical line of seniority and rank. We are now confronted with two alternatives if we wish to deepen the analysis of the data collected. Logically we can either analyse the data by referring to officers from various shipping companies by ship department or by their rank (or both). Since we anticipate that such breaking up of the data shall cause too small numbers in the various bars of the tabulation, the decision therefore is to choose only two ship departments, that of deck officers and that of engine officers and try to find if the distinction among them when employed by the three types of shipping companies still holds, and

whether we could draw any clear conclusions from this break of the accumulated data.

We shall turn now, therefore, to find the combined effects of ship department broken by shipping company namely the situational and organizational environment together. However, we begin with differentiation found between officers from the deck and engine department first. This step also is conducted by a regression test where the dependent variable is again the officers' intention to quit their present maritime occupation (Var..No. 128)

The general regression test conducted for all deck officers reveals the following facts. Deck officers' quitting intentions are explained to the total of 51.2% by 14 variables, whereas only 8 variables explain the variance of the same dependent variable to the total of 68.1% in the case of the sample's engine officers.

We have already encountered the deck officers' difficulties in seeking to transfer to shore based industries or other occupations. As we see here, (Table No. 5.14) the main explanatory variable is the actual search for a job in another shipping company by deck officers (19% of variance explained). On the other hand, about 51.5% of the variance of quitting intention, is explained for engine officers, by the importance of the need for better work-relations on board the ship.

This difference is very clear. The deck officer is working in the 'open air' and is actually unable to transfer to another shore based job. What is key in explaining his quitting intentions is his search for a better job in the industry, namely, in another shipping company. In other words, since the deck officer is directed toward more peripheral areas of the ship, like the business world, clients, docking dealing with the stevedores or the ships'

TABLE NO. 5.14 - STEPWISE REGRESSION -DECK OFFICERS, ALL SHIPPING COMPANIES -  
WHERE THE d.v. IS : INTENTION TO QUIT (VAR. NO. 128)  
(Including only variables which explain up to at least 1% of  
the variance)

Var. No.	Variable Name	Multiple R	R Square	R <sup>2</sup> Change	Simple R	Beta
108	Actually searched for a job in another local shipping company lately	.43862	.19239	.19239	.43862	-.260
040	Job satisfaction	.49866	.24866	.05627	-.26240	-.263
122	Job income importance	.53635	.28767	.03901	.42826	.176
089	No. of jobs ashore prior to becoming a seafarer	.56950	.32433	.03666	.18048	.222
053	Tenure, Years as a seafarer	.59250	.35106	.02673	.22016	.373
067	(Relations between) officers to cadets importance	.61403	.37704	.02598	-.17003	-.145
062	Ship's social life Imp.	.63195	.39936	.02232	-.15535	-.185
071	Too long period at sea, makes integration more difficult when quitting/retiring to shore life	.64704	.41867	.01930	.14413	.214
011	No. of brothers in family of origin	.65980	.43533	.01666	.27911	.467
137	(Shipping) Company does take care for family when ego is at sea	.67243	.45216	.01683	.23456	.036
046	Relations with peers	.68389	.46771	.01554	.15745	.147
037	Sea Rank Group	.69777	.48689	.01918	.08395	-.197
106	Ego's self evaluation in local shipping labour market	.70806	.50135	.01446	.34054	.275
101	Wages conditions importance	.71540	.51179	.01044	.41471	.204

(SPSS Procedure)

agents, his orientation is therefore directed towards the outside world. The engine officer presents the opposite case. His orientation is toward the inner world of the ship's mechanics. No wonder the main variable of importance is the "better work-relations...". This line of difference can be traced to distinguish between the two groups of officers. Whereas the deck officers' intentions to quit are mainly explained by variables which touch social relations with peers, superiors, shore offices or agencies, and with matters of information and status evaluation, the engine officers' intentions are explained mainly by variables which are connected to the personal matters of satisfaction of various needs such as work relations, work atmosphere, and interest in work coupled with personal social status and with his personal family plans - all of which are intrinsic to one's work and situation.

TABLE NO. 5.15 - STEPWISE REGRESSION - ENGINE OFFICERS, ALL SHIPPING COMPANIES  
- WHERE THE d.v. is : INTENTION TO QUIT (VAR. NO. 128)  
(including only variables which explain up to at least 1%  
of the variance)

Var. No.	Variable Name	Multiple R	R Square	R <sup>2</sup> Change	Simple R	Beta
131	Better working relations on board ship Importance	.71800	.51552	.51552	.71800	-.077
051	Present Wage rank	.76408	.58382	.06930	-.36349	-.313
081	Social atmosphere on board ship	.77922	.60718	.02336	.29149	.204
010	Father's education (level)	.79311	.62903	.02185	.10677	.079
075	Interest in Work	.80313	.64502	.01599	-.16538	-.126
130	Loans Importance	.81003	.65614	.01113	.66555	.439
111	Family plans	.81798	.66909	.01294	.42101	-.343
038	Influence on work (activity)	.82518	.68093	.01184	.32426	.218

(SPSS Procedure)

The question that arises now is what are the differences between deck and engine officers, not only from the point of view of job situation, but also from the combination of both job situation and the organisational climate and environment? In order to answer this question we have also conducted two more sets of stepwise regression tests in which we treat the two ship main departments - deck and engine - as a broken factor by the three types of shipping companies (Zim Co., El-Yam Co. and all the rest - representing the three types of management explained earlier).

First, an attempt is made to find out whether deck officers of the three types of shipping companies have or exhibit the same causes and reasons for their intention to quit or stay. The Zim Co.'s deck officers (See Table No. 5.16) in the regression test, include 18 variables (each of the power to explain at least 1% of the variance of the dependent variable), which explain the total of 67.9% of the 'intention-to-quit' variance. Conducting the same test for El-Yam deck officers, we have obtained a result which shows that with only 6 variables, we have 99% of the variance explained and in the third test, for all the other deck officers of the remaining shipping companies, we obtain an explanation of 96.8% of the variance by 21 variables. These results are quite high, and are very rarely found to be so in the literature reviewed.

The first variable in the regression test for Zim Co., deck officers (26% of variance explained) is the actual search for a job in another Israeli shipping company, and the second of these variables (8.6% of variance explained) is tenure - years at sea as a seafarer (See Table No. 5.16). The other variables in the regression show that the main element that influences the intention to quit can be classified by the general factor of 'relations' - relations with the environment, close and distant to the ship's life. Only a very small influence can be attached to the satisfaction

TABLE NO. 5.16 - STEPWISE REGRESSION - ZIM CO.'s DECK OFFICERS - WHERE THE  
d.v. is: INTENTION TO QUIT (VAR. NO. 128)  
(Including only Variables which explain up to at least 1%  
of variance)

Var. No.	Variable Name	Multiple R	R Square	R <sup>2</sup> Change	Simple R	Beta
108	Actually searched for a job in the local shipping labour market lately	.51038	.26049	.26049	.51038	.302
053	Tenure (Years at Sea)	.58864	.34640	.08600	.28684	.533
067	(Relations between) Officers to cadets Importance	.62501	.39064	.04415	-.19091	-.099
062	Ship's social life Importance	.65795	.43290	.04226	-.19729	-.168
138	Employer-Employee profit sharing	.68247	.46576	.03286	.37493	.096
080	Love of profession	.70359	.49503	.02927	-.17657	-.081
109	Actually searched for a job ashore in the local labour market lately	.72085	.51962	.02459	.34501	-.370
029	Seamanship education	.73708	.54329	.02367	.15636	.223
075	Interest in work	.75132	.56448	.02119	-.16249	-.234
009	Father's work to-day	.76354	.58299	.01852	-.08157	.246
110	Ego cares for his job	.77135	.59499	.01199	.38899	.151
124	Advancement chances Importance	.77965	.60785	.01286	.23909	-.139
125	Social relations on board ship importance	.78885	.62229	.01444	.41231	.331
049	Seamen's status ashore	.80015	.64025	.01796	-.109 6	.314

(SPSS Procedure)

of needs. Rather the relations with cadets, peers, and the importance of the ship's social life are essential. However, the need and satisfaction variables included in the test (See Table No. 5.16) are more related to higher order needs such as love of profession, interest (in) work, care for job, advancement chances and seaman's social status. Only at the end of the list do we find lower needs and dissatisfaction of immediate situation on the job such as 'light', wage conditions, and loans importance.

The same test for El-Yam deck officers (See Table No. 5.17) reveals that they need most of all 'influence on work'. This variable alone explains 48.2% of the variance which is most characteristic of these officers ( $R = 0.69437$ ). The second variable, 'care for job', is also very illuminating for it explains some 25% more of the dependent variable's variance. In this variable the operational question put before the officer was the following :

"To-day, in the light of the difficulties of the economic situation, both in the Israeli and International fleets, are you afraid of unemployment, or being redundant?"

Answers - (1) Yes, very much ..... (5) Not at all

The correlation we obtained ( $R = -0.41268$ ) reveals that among these deck officers employed by the El-Yam shipping company, the less they are afraid of that situation (still in 1975/6) the more prone they are to leave. The next variable, the period of taking the decision to become a seaman, which explains 14% more of the variance, means that the more recent the decision the less they intend to leave. The situational and environmental time factor - which impinges mostly on rank, salary, task and seniority - and by that on the seaman's power to choose a particular ship or voyage - is most important here. The last two variables in this list again reveal very strongly the influence of social and situational elements. Both one's family



TABLE 5.17 - STEPWISE REGRESSION - EL-YAM CO.'s DECK OFFICERS - WHERE THE d.v. is; INTENTION TO QUIT (VAR. NO. 128)  
(Includes only variables which explain up to at least 1% of the variance)

Var. No.	Variable Name	Multiple R	R Square	R <sup>2</sup> Change	Simple R	Beta
038	Influence on work	.69437	.48214	.48214	.69437	.747
110	Officer cares for his Job	.85612	.73295	.25080	-.41268	-.366
094	(The) Period in which ego decided to be a seaman	.93449	.87328	.14033	.34034	.726
108	Actually searched for a job in local shipping labour market lately	.97482	.95028	.07700	-.16116	-.375
017	Year of respondent's Marriage	.98899	.97811	.02783	-.03223	-.170
088	Problems on shore	.99511	.99025	.01214	-.06959	.236

(SPSS procedure)

and one's problems ashore are very important. But, again, the most powerful explanatory factor is the need to influence the work the officer carries out.

All the other deck officers of the remaining shipping companies intent to leave the sea because of personal needs satisfaction, which stem from 'lower order' needs such as light on board, job satisfaction, job income, seniority bonus, loans and safety measures on the ship. On the other hand, these needs and demands are coupled with constant evaluation and search for alternative jobs, both in the Israeli shipping and in shore based organisations and occupations. These, as we have already discovered, are describing the temporary relations with the employer where the calculation on the seaman's part is essentially his immediate and pecuniary rewards (See Table No. 5.18)

The general description of the essential differences among deck officers in

TABLE NO. 5.18 - STEPWISE REGRESSION - DECK OFFICERS OF REMAINING SHIPPING COMPANIES - WHERE THE d.v. IS: INTENTION TO QUIT (VAR.NO.128)  
(Includes only variables which explain up to at least 1% of variance)

Var. No.	Variable Name	Multiple R	R Square	R <sup>2</sup> Change	Simple R	Beta
115	Light on board (work areas)	.47618	.22675	.22675	-.47618	-.781
072	Commitment (Sea time in 1976)	.56111	.31484	.08809	.22249	1.05
140	More responsibility of command importance	.63137	.39863	.08379	.17792	1.14
040	Job Satisfaction	.69660	.48525	.08662	-.29513	-.008
106	Ego's self evaluation in local shipping labour market	.76645	.58744	.10219	-.08699	.723
011	No. of brothers in family	.82836	.68618	.09874	.26352	.047
121	Comp. cares for ego's family while he sails at sea	.85315	.72787	.04169	-.34255	-.044
067	(Relations between) officers and cadets importance	.87700	.76913	.04126	-.05373	-1.277
109	Actually searched for a job ashore in labour market lately	.89424	.79967	.03054	-.32583	-.07
086	Seamen remain at sea because of habits	.91412	.83562	.03595	.37427	.18
139	Seniority bonus importance	.92393	.85365	.01804	-.14618	.083
122	Job income importance	.93241	.86938	.01573	.07858	-.41
130	Loans importance	.93964	.88292	.01354	.16378	-.96
047	Relations to/with superiors	.94658	.89601	.01309	-.22083	-.71
136	Better safety importance	.95387	.09087	.01386	-.10032	-(x)

(SPSS Procedure)

(x) output unclear

the various shipping companies does not change when compared with the previous calculations of the data presented earlier. The Zim Co. people show that bureaucratic and managerial situational and environmental factors are the main variables which influence their intentions to leave. The El-Yam people suffer from the traditional centralistic style of management and the other deck officers of the remaining smaller risk prone companies show that the immediate and the pecuniary needs are the most influential upon their intention, as we have already seen, because of the temporary relations built between them and their employing organisation. This is illustrative of the fact that only this group of officers is influenced by the factor of the ship's safety measures and equipment, for it is well known that the ships in this group of companies - risk prone - are 'not new ones'... (and are often not supervised by the shipping and ports authority supervisors due to 'flagging out' methods - well known in shipping).

When analysing the same kind of regression tests for the engine officers employed by these shipping companies, we find the same trends (See Tables No. 5.19 - 5.21).

The Zim Co. officers' stepwise regression test shows that 77% of the variance of quitting intention is explained by 10 variables. Whereas the same test shows that engine officers' test, of those working in the El-Yam Company, gives 99.1% of explained variance by 4 variables only, and for the other engine officers, 92.5% of variance is explained by 11 variables.

Zim Co. engine officers' first and highest variance-explaining variable (54% of variance) is the 'better work relations on board ship importance' ( $R = 0.73694$ ) - which is quite typical of Zim Co. officers, and of the engine people. As we have already noticed, engine officers' main orientations

are towards the inner world of the ship-life. These officers are mainly occupied with private personal matters, and as we find (See Table No. 5.19) their social personal occupational assets and status are the main factors that explain their intent to leave. Here the recognition is of wage rank level, family plans and marital status as the main variables which explain most of the variance of the dependent variable. We do, nevertheless, get the feeling that the first variable of importance is still connected with the main problems of this company's officers - better working relations. The inability to make quick decisions on board the ship brings them in many cases, into conflict with the Masters of the ships as to 'where to buy spare parts', or the detachment they feel from the other crew members who are in the dining room in clean clothes and, therefore, served properly by the stewards. On the other hand, the paucity of their numbers in the manpower reservoirs and their weak bargaining power with shore management, which has too many steam officers for so few jobs aboard a small number of ships, impels to concentrate on the personal matters revealed in the regression test (Table No. 5.19).

Turning to El-Yam engine officers, we find as expected, that 83.3% of the variance of the dependent variable is explained by the need for 'more responsibility of command importance' (Var. No. 140-  $R = 0.91272$ ). Having obtained this result it is not necessary to enter into an analysis of the other variables. However, these other variables sustain the notion of the personal acquaintance needed by the company management which influences one's intent to leave. The centralistic style of management in the company which (in 1975/76) has some 4-5 tanker ships, while the others are quite old cargo ones, does explain the need of 'safety' the officers have - especially when in the engine department ( $R = 0.65598$ ), (See Table 5.20).

TABLE NO. 5.19 - STEPWISE REGRESSION - ZIM CO.'s ALL ENGINE OFFICERS - WHERE  
THE d.v. IS: INTENTION TO QUIT (VAR. NO. 128)  
(Includes only Variables which explain up to at least 1% of  
the variance)

Var. No.	Variable Name	Multiple R	R Square	R <sup>2</sup> Change	Simple R	Beta
131	Better working relations on board ship Importance	.73694	.54309	.54309	.73694	.30
051	Present Wage rank	.78683	.61911	.07602	-.39091	.27
097	Academisation - recognition	.80362	.64581	.02670	.10402	.41
004	Continent of Birth	.81899	.67075	.02494	.10930	.261
111	Family plans (changes)	.83077	.69018	.01943	.51082	1.231
130	Loans Importance	.84056	.70654	.01636	.64635	-1.16
075	Interest in Work	.84824	.71952	.01298	-.21030	-.55
080	Love of profession	.85842	.73689	.01738	.08790	-.275
017	Year of marriage	.86492	.74809	.01119	-.04241	-3.826
016	Marital status	.87258	.76140	.01331	.01380	-4.153

(SPSS Procedure)

Again, when studying the results of the regression test for the engine officers in the other shipping companies (excluding Zim and El-Yam), we are confronted with the two known variables of 'ship to shore' relations (actually the attitudes between ship and the shore management bodies of the shipping companies), and the 'social atmosphere on board' where so many foreigners are hired and employed. Here the Israeli engine officer does not have a living soul to talk to (See Table No. 5.21). Furthermore, the reality and the job situation is such that many a time the foreign engine officer on board has been put in the crew only because of the regulations of safety, but his ability both to work and converse in Hebrew or English is small. It appears that many a time most of the work done by the Israeli engine officer is more in solitude and seclusion than is expected of the

usual engine officers' work. This is, therefore, also the reason why we find so many variables of immediate needs and expectations which explain the variance of the intention to quit amongst them.

TABLE NO. 5.20 - STEPWISE REGRESSION - EL-YAM CO's. ENGINE OFFICERS -  
WHERE THE d.v. IS: INTENTION TO QUIT (VAR. NO. 128).  
(Includes only Variables which explain up to at least 1% of  
the Variance)

Var. No.	Variable Name	Multiple R	R Square	R <sup>2</sup> Change	Simple R	Beta
140	More responsibility of command importance	.91272	.83307	.83307	.91272	.847
009	Father's work today	.96809	.93719	.10413	.05711	.207
119	Safety on board ship	.98913	.97838	.04119	.65598	.203
094	Sea Life cause turnover	.99541	.99085	.01247	-.28415	-.106

(SPSS Procedure)

TABLE NO. 5.21 - STEPWISE REGRESSION - ALL ENGINE OFFICERS OF THE 'OTHER COMPANIES' (EXCLUDING ZIM CO., & EL-YAM CO.) WHERE THE d.v. IS : INTENTION TO QUIT (VAR. NO. 128)  
(Includes only Variables which explain up to at least 1% of the variance)

Var. No.	Variable Name	Multiple R	R Square	R <sup>2</sup> Change	Simple R	Beta
133	Ship - to shore attitude	.73709	.54330	.54330	.73709	.348
081	Social atmosphere aboard ship	.81416	.66285	.11955	.29301	.821
038	Influence on work	.84050	.70643	.04358	.12303	.221
010	Father's Education	.87547	.76645	.06002	.21566	.254
075	Interest in work	.90832	.82505	.05859	-.10417	-.384
051	Present wage rank	.92243	.85088	.02583	-.29585	-.322
037	Sea rank group	.93309	.87065	.01977	-.13769	.675
122	Job income importance	.94208	.88752	.01687	.23967	-.099
088	(Personal) Problems ashore	.95101	.90441	.01689	.02255	.157
004	Continent of Birth	.95620	.91431	.00990	.12107	.312
108	Actually searched for a job in the local shipping labour market lately	.96164	.92476	.01044	.02132	-.079

(SPSS Procedure)

## 5.6 CONCLUSION

In the last chapter we have established the fact that findings which are generally known in the literature to-date are also true in the case of the merchant marine officers. It is, therefore, believed that works such as Pettman's (1973) or Price's (1977), allow us to assume that deeper analysis of the findings is necessary. We have confronted two main issues in this chapter. The first issue, for which reasons are yet to be given, is the use of intentional behaviour variables as proper substitutes for actual behaviour variables. The second matter is the influence detected by the situational organisational institutional variables. To this second aim we have devoted most of the last chapter. It has been suggested below that partial proof of our model has already been substantiated but we shall pursue this goal in the next chapter. Hence, we have kept the operational aim and phrased both dependent variables, the intentional and actual behaviour, to include the positive as well as the negative form of commitment. The unfinished SSA I test and its controversial results, is but one example to buttress the postulated model's structure. The results of this test contradict both practical and theoretical assumptions accepted by most shipping organisational manpower managers and scientists, in Northern Europe. This stems from the fact that variables such as 'ship-shore attitudes' or 'respondents' influence on his work', 'love of the sea', 'relations with peers or superiors', 'job satisfaction' and other similar ones, have less affinity with intentional commitment than other variables neglected by the same shipping people.

When trying to decide whether quitting and staying intentions are caused and influenced by the same factors, we did find distinct differences. Although we shall attempt to tackle this difference in the next chapter, we should try now to explain the choice of variable No. 128 - intention to



quit - as our dependent variable in this chapter. For we could have taken variable No. 50 - intention to remain - and use it for the same purpose. From data presented in the following chapter, we obtain a correlation matrix upon which our explanation rests. First, as already mentioned, this study was conducted under severe limitations imposed by the computer services, and it was impossible to conduct the same tests with both variables: only one had to be chosen. The decision was rendered less critical by the significant correlations between these two and the actual commitment behavioural variable (Var. No. 141).

TABLE NO. 5.22 - PEARSON CORRELATIONS MATRIX BETWEEN INTENTION TO QUIT (VAR.128), INTENTION TO STAY (VAR.50), ACTUAL COMMITMENT BEHAVIOUR IN 1976 (VAR.72) AND IN 1982 (VAR.141) VARIABLES (SAS Procedure) (x)

Variable Name and No.	V.128	V.50	V.72	V.141
Intention to quit (V.128)	-	-.164	-.052	.024
Intention to stay (V.050)		-	-.150	-.106
Commitment Behaviour in 1976 (Var. 72)			-	.175
Commitment Behaviour in 1982 (Var. 141)				-
(x) (See Table No. 6.1)				

However, because no relationship was found between intention to quit and commitment behaviour in 1976 (Var. No. 72), it was thought better to choose intention to quit as the dependent variable because of this very fact. A complementary reason which had influenced this decision was due to the fact that, while both intentional variables include positive and negative commitment elements, the intention to stay (Var. No.50) includes a time-element in it which disturbs analysis for two reasons. The first reason can be

depicted in the following way : suppose an elderly seaman of about 62 years of age is asked about his willingness to remain, and his answer is that he would like to stay until he is retired. Does it mean he really wants to remain or that he actually has no other choice? The second reason is that because of the various time alternatives included in the variable, it was somewhat unconvincing to assume that when an officer wants to remain 3 years more and another wants more than that, say 5 years, the latter wants more as a matter of will not of time. This is why it was thought that if the regression tests were run with intention to quit as the dependent variable, it would make a much stronger case in our research, as it is described in the following chapter. The results of the SSA I test are therefore quite reassuring for the accuracy of our model in the following chapter. We have also obtained support for our hypotheses about the effects of organisational, situational intervening variables, when intention to quit was the dependent variable.

Our remarks in the last chapter about the validity of the model proposed, will be substantiated in the following chapter.

## CHAPTER SIX

### EMPIRICAL TEST OF THE THEORETICALLY PROPOSED MODEL

#### 6.1 Introduction

In the introduction to the previous chapter, we have raised the question whether it is the individual and his behavioural activity which create the special situational environment surrounding him, or rather, whether the situational environment causes one's behaviour. For the time being, this query should modestly be left for the philosophers. It is the purpose of this present chapter to take both alternatives as given and limit our discussion, provided our theoretical model can accommodate these alternatives. We believe that because of its special structure, organised in the form of a spiral developmental process of events (which repeats itself time and again exactly as the seafarer signs-on time and time again, our model achieves this). We recognise that there is an interrelationship between the organisational situational environment and the employee's behaviour which may either be directed to the positive or the negative forms of commitment during any given phase of the discussed 'cycle of events'. This, then, remains to be shown.

It was claimed earlier that to-date scientists are particularly interested in the results of commitment and turnover, both as influencing the employee and his employing organisation. After works such as Bluedorn's (1982) were published, the subsequent trend has been to investigate matters such as questions of how much turnover is actually allowed to the organisation or whether there is some positive function in the dysfunction of the organisational turnover and within which economic boundaries in matters of "hard Dollars" is it worth while for the organisation to continue to operate. We have claimed that the transition is from analysis of behaviour of employee to the organisational and personal results of the commitment (positive as well as negative) behaviour. Close investigation of this trend reveals that there

is no theoretical connection between these two levels or phases of analysis, and one reason for this broken trend is embedded in the structure of the theoretical models, which gives no hint as to the latter group of problems. It is quite strange that such a tremendous effort has been dedicated to studying turnover and commitment (combined or separate), but when investigating the organisational and individual results of those two-sided complementary analytical problems, one can hardly pinpoint any trace of an analytical or theoretical connection from the results to the study of the phenomenon. Apart from the scientific reasons for such a trend, based on the notion that these two topics are innately different, it is believed that this is caused by the structure of the models being of one directional process (ended in the act and behaviour of quitting or commitment). We believe that our suggested model structure as a spiral process which returns repeatedly in cycles, might perhaps explain the described enigma (see Bluedorn, 1982, b).

When Bluedorn (1982 (a) 149-150) discusses his unified model of turnover he claims that direct paths from age, routinisation and environmental opportunities, are "of great interest". "In several other studies these variables", he says, "have been found to have direct effects on turnover, independent of the intervening variable satisfaction and in one case the intervening variables satisfaction and intent to leave". This is the only one actual instance where Bluedorn related to opportunities in this work on the unified model. In this model both organisational and institutional-situational environmental variables are incorporated so that they stand equally important with all other independent variables, influencing job satisfaction, organisational commitment, job search, intent to leave and, in turn, turnover. But are we to assume that there is no connection between variables such as instrumental information, equity, potential role conflict,

or routinisation with environmental opportunity? Bluedorn's model (1982:a) says nothing about it, nor does it seek any path between these variables. This, again, is because his model is built as a process of one directional development, towards turnover through commitment, job search and intent to leave. Even he does not find any direct path between environmental opportunities and intentional behaviour, rather this path is through job search. However, if in this one-directional process, turnover actually includes "those who were either stayers or leavers", he does need a separate variable for commitment to precede the 'intent to leave' variable. He actually contradicts his own analytical intention operationally to combine and unify commitment with quitting. But what is more essential here, is that by so doing, he cannot distinguish between the two forms of commitment, and therefore is forced into structuring his model as a one directional-process of events. He also contradicts himself on another matter. He claims to include in his own unified model the model built by Mobley (1977) which includes a heavy and strong element of feedback among certain variables. This element of feedback is forgotten by Bluedorn. These two problems mentioned here do not allow him to see that his model should be arranged in a "cycle of events", where "opportunity" variables are in the centre of this process, which after the positive or negative behaviour of commitment occurs, starts again in the renewal of contract relationships between employer and employee. This is also the reason why "environment" is just another independent variable instead of an intervening variable. Had this variable been viewed as such, then Bluedorn (1982:c) would not have just been explaining phenomena such as organisational processes ("communication, conflict, change") or organisational structural effects ("centralisation, formalisation, administrative properties, differentiation") after having established his model. Rather, such matters would have been dealt with by the model and its analysis, instead of discussing them as if cut off

from the analytical theoretical model (Bluedorn 1982:c, 110-112). We now intend to justify the reorganised model described in chapter three, and hopefully to deduce operational recommendations in the last chapter of this work.

## 6.2 THE EMPIRICAL VERIFICATION OF THE MODEL AND THE THEORETICAL PERSPECTIVE

Our main aim in the following section is to prove the principal structure of our postulated model. The range of alternative methods available for obtaining this aim and purpose is quite limited. The usual method chosen by researchers is the use of path analysis. There are two reasons for not taking such a step, at least in the present work. The first is procedural. When trying to employ the path analysis method the scientist must choose those variables he includes in his model and specify their relationships, by which specification he computes the paths between them. This is a pre-determined form and purpose. By so doing, it is well known that he may demonstrate justification for his model. But what is done by the scientist is but one among other alternative choices, and at the end, the scientist cannot know whether his model is the best one obtainable from his collected data. What he knows is merely that the specific model is or is not explained to a better or worse degree. It is intervention by the researcher's choice that we seek to avoid. We would like instead to use a method essentially free from the researcher's aims, inclinations and expectations. If we refer to one example of a recent research work that has employed path analysis our case will become clearer. Forsyth and Bankston (1984 : 128) say in justification of path analysis :

"It also allows us to determine the magnitude of direct and indirect causal influence that each variable has on other variables that follow it in the presumed causal order. Organisation membership and religious participation are treated as intervening variables in the path model".

It is hoped that even if we do not know the magnitude of causal influence, as long as the influence is established and without any guided influence by the researcher, only then should we use path analysis, if this magnitude is so important. In brief, our aim is to employ an analytic method, with the least amount of intervention.

The second reason for not employing the path analysis in this work is derived from Billings and Wroten (1981 : 678), who after having analysed the path analysis method, discuss some procedural matters. The main problem is that few researchers actually test their model by computing or reproducing a correlation matrix by use of their computed paths after these were obtained. Only half of the work is undertaken when we just compute the paths. Since our computer budget and facilities were strictly limited, we have therefore chosen Pollatchek's method (1974) described in the following passages.

Drawing on Blalock (1961), Pollatchek (1974) suggests an evaluation scheme for causal models. It's advantages are that it is quick even for a high number of variables. It allows us to include all the relevant variables including those which seem to be remote from the immediate model (variables, which are usually not accounted for by path analysis). By obtaining the correlation matrix between all these variables, the second step is to obtain the inverse matrix (usually by use of computer). He then computes a partial correlation formula (as mentioned in the following paragraphs) that yields a structural form of significant relationships among the variables included in the test. The result is a model, free from the researcher's aims, inclinations and expectations. The computation of the final matrix can be done without the computer and therefore requires only a small financial budget. It was, therefore, chosen in our case.

Our main aim is to find causal relations between the various variables with "actual quitting behaviour and amount of sea-time", as a combined commitment dependent variable - actual behaviour, found to exist five years after the sampled officers had answered the research questionnaire. In summing up our hypotheses we should return to chapter three. However, in brief, these hypotheses are given below, in the shortest form possible. We would propose



that :

- a) Essentially the same pattern of causality between various variables as found by Bluedorn in his model (1982), should also be found here.
- b) Causal relationships should be found as having been intervened by both organisational and situational environmental variables.
  - b.1. If the employee is positively committed, these intervening variables affect the relationship between commitment and the other independent variables which determine the renewal of work relations with the employer.
  - b.2. If the employee is negatively committed, then these intervening variables stand between one's quitting intentions and quitting behaviour, or low commitment behaviour (in our case, low number of "sea-time" days, within a given measured period).
- c) It is hypothesised that labour market job opportunities and social reference groups' variables have causal effect upon all variables of our proposed model, and not only upon satisfaction and turnover behaviour, as found by Bluedorn (1982:a).
- d). We propose that the structure of the model is in the form of 'cycles of events' where the process and development are to surround job opportunity and reference variables. The process actually does either terminate in case of actual quitting behaviour, or is renewed into a new process by causal relationship between commitment behaviour and social economic of professional-occupational variables.
- e) It is proposed that distinct causal relations expressing the element of feedback between phases/variables, should be found in our model, on

two distinct levels :

- e.1. The first level should show causality between variables (facets) such that facet No. 1 (where the process begins) is related to, and affects facet No. 3, facet No. 2 affects facet No. 4, No. 3 affects No. 5, No. 4 affects No. 6, and facet No. 5 affects No. 1 (or actual commitment behaviour defined by facet No. 7).
- e.2. The other level of feedback causality between the facets, should show relations between facet No. 1 and No. 4, No. 2 and No. 6, No. 3 and No. 7.

The above two levels of relationships are intervened and rely on the influences caused by the labour market job opportunity and social reference groups facet, which as we have proposed earlier, is related to all phases (although, different variables of this central group are related with different phases of the process postulated).

It is nevertheless also suggested, that whereas proposal 'e.1' relationships are explained best by the effects of organisational-situational variables, intervening in the process, proposal e.2. should best be explained by the effects of labour market job opportunity and social reference group variables.

In order to sustain our theoretical model, the essence of the method employed is to follow these steps. First, we obtain the Pearson correlations matrix between all relevant variables including our dependent variable of commitment behaviour. Then we compute its inverse matrix (See Tables Nos. 6.1 and No. 6.2).

Having obtained the inverse correlation matrix, we employ the following computation :

Table No. 6.1

## CORRELATIONS MATRIX AMONG THE DEPENDENT AND

## MAIN (23) INDEPENDENT VARIABLES

(S.A.S. PROC.)

Var. No.	17	53	90	62	75	130	131	140	40	45	91	143	144	145	108	109	50	128	30	49	71	106	107	72	141
year of marriage .....	1.0																								
tenure as a seafarer (in years) .....		1.0																							
shipping company (employer) .....			1.0																						
ship's social life importance .....				1.0																					
interest in work .....					1.0																				
loans from employer importance .....						1.0																			
better work relations							1.0																		
on board ship importance .....								1.0																	
more responsibility of									1.0																
command importance .....										1.0															
job satisfaction .....											1.0														
work satisfaction .....												1.0													
shore-leaves satisfaction ...													1.0												
would send his son to a														1.0											
nautical high-school .....															1.0										
would change occupation																1.0									
within next 5 years .....																	1.0								
would change employer																		1.0							
within next 5 years .....																			1.0						
actual job-search																				1.0					
in other shipping Co....																					1.0				
actual job search																						1.0			
ashore lately .....																							1.0		
(B.I) intention to n																								1.0	
remain .....																									1.0
(B.I.) intention																									
to quit .....																									
self status																									
ashore .....																									
prestige																									
ashore .....																									
too long at .....																									
sea-bad...																									
job-opp.																									
in shipp.																									
job-																									
opport..																									
ashore																									
sea-																									
time																									
1976																									
sea-																									
82																									
0																									
175																									

Table No. 6.2

Inverse Pearson Correlations Matrix  
(S.A.S PROCEDURES)

Example : computation in order  
to obtain data presented  
on table No. 6.3 .

$$\rho = -(-0.347 / \sqrt{(1.32 \times 1.33)}) = 0.262$$

(see same place in Table No. 6.3)

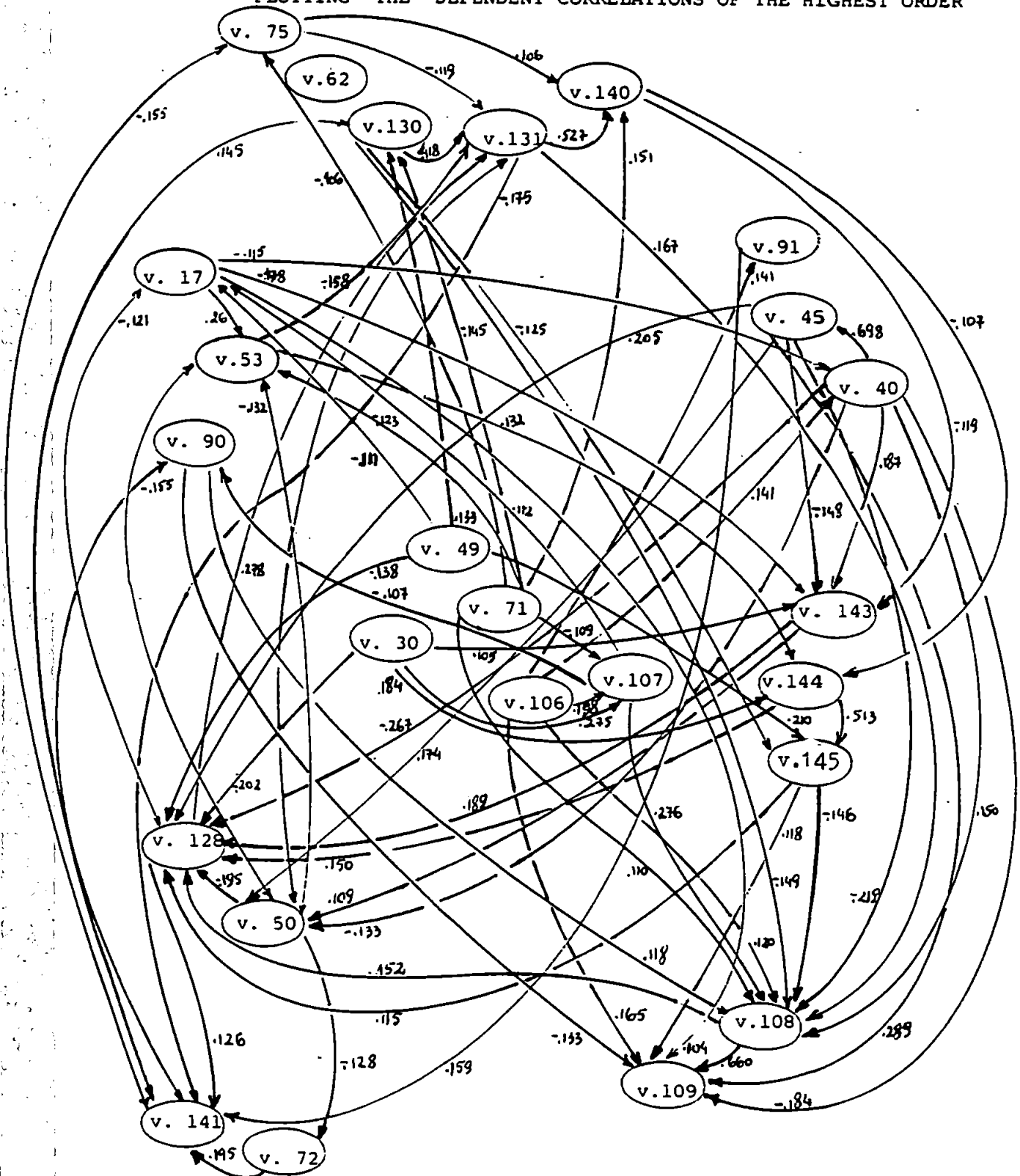
17	53	90	62	75	130	131	140	40	45	91	143	144	145	108	109	50	128	30	49	71	106	107	72	141
1.32	-347	-059	-039	085	-006	-148	093	204	-134	-011	230	013	-008	239	-242	168	226	-010	140	-014	-100	-185	046	065
	1.33	-113	-086	002	-038	404	-086	004	023	071	-029	-225	053	083	-030	174	-181	015	013	153	004	-161	-060	067
		1.12	-014	-006	-150	049	031	026	019	032	-020	-014	152	-275	286	110	092	-051	-071	-075	-055	162	-007	182
			1.07	038	003	-042	-043	012	041	-063	-068	016	-001	-143	012	-102	108	-051	090	-037	102	127	-040	-034
				1.20	056	289	-199	-154	-085	-085	064	074	067	-043	-112	-059	-009	-096	-100	125	009	011	-159	189
					2.51	-1.5	-215	-013	036	165	101	-248	286	523	-427	069	-294	-029	-229	247	-071	-290	196	-253
						4.95	-2.0	-343	295	-197	-006	114	-056	-901	-095	-295	-1.0	-026	023	150	271	-014	-344	432
							2.94	-027	-083	-108	230	273	-141	-095	-037	-028	-063	066	035	-278	-095	054	-011	089
								2.37	-1.6	043	-324	122	104	-511	575	234	669	172	-111	036	-300	-067	133	005
									2.29	-096	252	-130	-035	733	-890	-302	-504	-111	-002	-003	163	013	-157	000
										1.09	-074	-022	106	098	055	027	040	020	-075	040	-046	-062	100	-185
											1.26	-131	-001	197	-213	-141	-344	-131	-019	-101	-170	157	-010	056
												2.20	-1.3	-253	181	023	-362	-303	130	-108	-001	167	-035	135
													2.10	470	-347	159	-209	006	-331	045	-077	032	-002	031
														4.90	-2.9	047	-546	058	058	-263	-365	-879	073	-294
															4.13	-035	310	-030	125	109	-462	011	231	192
																1.31	362	-046	-106	-014	-076	042	157	059
																	2.64	364	245	-123	-384	-089	092	-227
																		1.23	-032	-096	011	-438	052	-103
																			1.19	-006	-056	-130	035	-128
																				1.16	-078	168	021	-072
																					1.89	-390	009	-003
																						2.06	-058	133
																							1.16	-233
																								1.23

Table No. 6.3

## DEPENDENT CORRELATIONS OF THE HIGHEST ORDER MATRIX

	17	53	90	62	75	130	131	140	40	45	91	143	144	145	108	109	50	128	30	49	71	106	107	72	141
17	-	262	048	033	-068	003	058	-047	-115	077	009	-178	-007	005	-094	104	-128	-121	008	-111	011	064	112	037	051
53	.	-	093	072	-002	021	-158	043	-002	-013	-059	023	132	-032	-032	013	-132	097	-012	-011	-123	-003	097	049	052
90	.	.	-	013	005	090	-021	-017	-016	-012	-029	017	009	-099	118	-133	-091	-054	044	062	066	038	-107	006	-155
62	.	.	.	-	-032	-002	018	024	-008	-026	058	059	-011	000	063	-005	086	-065	045	-080	033	-072	-085	036	030
75	.	.	.	.	-	-032	-119	106	092	052	074	-052	-046	-042	018	050	047	005	079	084	-106	-006	-007	135	-155
130	.	.	.	.	.	-	418	079	005	-015	-075	-057	-049	-125	-149	134	-033	114	017	133	-145	032	127	-115	145
131	.	.	.	.	.	.	-	527	100	-088	085	003	-035	017	167	021	116	278	010	-095	-063	-089	004	144	-175
140	.	.	.	.	.	.	.	-	010	032	060	-119	-107	057	025	011	014	023	-035	-019	151	040	-022	006	-047
40	.	.	.	.	.	.	.	.	-	698	-027	187	-053	047	150	-184	-133	-267	-101	066	-022	141	030	-080	-003
45	.	.	.	.	.	.	.	.	.	-	046	-148	058	016	-219	289	174	205	066	001	002	040	-006	096	-000
91	.	.	.	.	.	.	.	.	.	.	-	063	014	-059	-042	-026	-023	-029	-017	066	-036	141	042	-089	159
143	.	.	.	.	.	.	.	.	.	.	.	-	078	000	-079	093	109	189	105	015	084	-078	-097	008	-045
144	.	.	.	.	.	.	.	.	.	.	.	.	-	513	077	-060	-014	150	184	-080	067	001	-078	022	-082
145	.	.	.	.	.	.	.	.	.	.	.	.	.	-	-146	118	-096	115	-003	210	-029	039	-016	002	-019
108	.	.	.	.	.	.	.	.	.	.	.	.	.	.	-	660	-018	152	-024	-024	110	120	276	-031	120
109	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	-	015	-094	013	-057	-050	165	-004	-105	-085
50	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	-	-195	037	085	011	048	-026	-128	-047
128	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	-	-202	-138	070	172	038	-030	126
30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	-	027	072	-007	275	043	084
49	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	-	005	038	083	-030	105
71	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	-	053	-109	-018	061
106	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	-	198	-006	002
107	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	-	037	-083
72	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	-	195
141	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	-

Fig. No. 6.1





$$\rho_{ij.klmn} = -(\lambda_{ij} / \sqrt{\lambda_{ii} \cdot \lambda_{jj}})$$

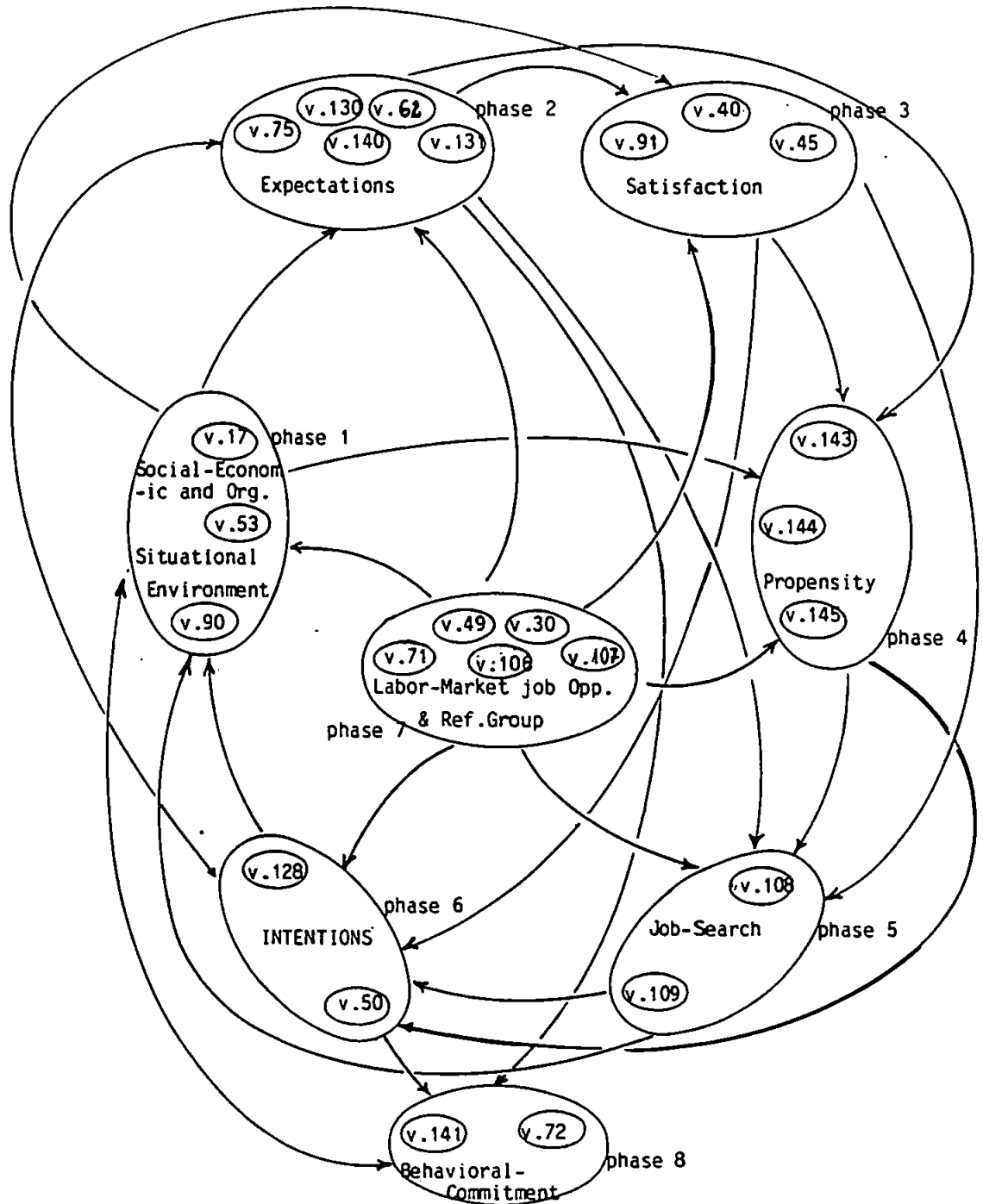
when  $\lambda_{ij}$ , is the  $ij$  component in the inverse matrix.

The results obtained are in the "dependent matrix of the highest order" - (Table 6.3). This matrix gives us the structure of the causal relationships among the variables. Whereas path analysis demands that the researcher shall in advance, define the expected structure, this computation is free from intervention. The original Pearson correlation matrix is presented in Table No. 6.1. Table No. 6.2 exhibits the inverse matrix, computed with the kind help of Dr. Amini (Plymouth Polytechnic Maths. Dept.). Table No. 6.3 presents the computed dependent "correlations of the highest order matrix", from which we are able to plot the chart of our model, derived from the empirical data. Since we have quite a large number of variables (25 altogether) the causal arrows drawn are only those highest three correlations of each line and column (See Fig. No. 6.1.). The causality is in the direction from the lower left side of the chart to the highest right side. In the presentation of the model itself (Fig. No. 6.2) we put the grouped variables into facets and show the relations between these groups.

Prior to analysis of the results, a remark is to be made here as to the reasoning for choosing these variables and not another combination of variables in the collected data. The principle here was to take only those variables mentioned in the Bluedorn model (1982), which also appear to be included in the regression tests reported earlier in Chapter five.



Fig. No. 6.2 THE COMPUTED CAUSALITY OF RHE HIGHEST ORDER  
DEPENDENT CORRELATIONS  
THE THEORETICAL MODEL VERIFIED - by the  
RELATIONS AMONG THE PHASES



The variables in the computed procedure, were the following 25 variables grouped into 8 facets :

Facet No. 1 : Variables of socio-economic and professional assets and job situation and work environment.

Var. No. : 017	Year of officer's marriage
Var. No. : 053	Tenure (No. of years) as a seafarer
Var. No. : 090	Employer - shipping company

Facet No. 2 : Variables of expectations from job and its rewards

Var. No. : 62	Ship's social life importance
Var. No. : 075	Work does/does not interest the officer
Var. No. : 130	Loans given to the officer shall cause retaining him
Var. No. : 131	Better work - relations on board ship shall cause retaining the officer
Var. No. : 139	Seniority bonus, shall cause retaining the officer
Var. No. : 140	More responsibility of command importance

Facet No. 3 : Satisfaction variables

Var. No. : 040	Job satisfaction
Var. No. : 045	Work satisfaction
Var. No. : 091	Shore-leaves' satisfaction

Facet No. 4 : Propensity to remain or leave

Var. No. : 143	Intentions to remain/leave place of work
Var. No. : 144	Chances to change occupation within next 5 years
Var. No. : 145	Chances to change work place within next 5 years

Facet No. 5 : Search for another job

Var. No. : 108	Actually searched for a job in another shipping Co.
Var. No. : 109	Actually searched for a job ashore lately

Facet No. 6 : Intentions to remain or to quit

Var. No. : 050	Plans to remain/leave occupation
Var. No. : 128	Intention to quit - "given the proper opportunity"

Facet No. 7 : Evaluation of labour market opportunities and reference group

Var. No. : 071	People quit the occupation because too long periods at sea (service) make integration ashore when quitting/retiring too difficult
Var. No. : 049	Evaluation of officers' Nautical) status ashore
Var. No. : 030	Evaluation of potentials for employment in the labour market ashore
Var. No. : 062	Importance and evaluation of social life aboard ship
Var. No. : 106	Chances to find a job in another shipping company
Var. No. : 109	Chances to find a job ashore

Facet No. 8 : Commitment behaviour

Var. No. : 072	Sea-time in 1976
Var. No. : 141	Sea-time in 1982

We might have evaluated the results presented in Fig. 6.2 as sufficient proof for our theoretical model. However, it was decided to augment the analysis and include a larger number of variables, (a) because the method we employ allows it, (b) because we did not want to neglect the remotest variables in this process, as we believe was imposed on Bluedorn due to his use of path analysis, and (c) because we intended to arrive at a more inclusive and fundamental proof of our hypotheses. We have, therefore, added 34 variables to the latter 25 and submitted the total as the following 59.

Phase No. 1 includes (social economic status and environmental) eight variables :

- 1) var. No. 004 : (respondent's) continent of birth
- 2) var. No. 010 : (respondent's) father's present occupation
- 3) var. No. 016 : Marital status
- 4) var. No. 017 : Year of marriage
- 5) var. No. 024 : Ownership of flat
- 6) var. No. 037 : Sea-rank group (senior, middle, junior officer)
- 7) var. No. 053 : Tenure as a seafarer (in years)
- 8) var. No. 090 : Employer - Shipping company

Phase No. 2 includes (expectations) twenty two variables :

- 1) var. No. 047 : Relations with superiors on board the ship
- 2) var. No. 048 : (respondent's) socialises with other seamen ashore  
(rate of).
- 3) var. No. 051 : Present wage rank
- 4) var. No. 062 : Ship's social life importance
- 5) var. No. 070 : Sea-life itself is the cause of turnover
- 6) var. No. 075 : Interest in work
- 7) var. No. 100 : Interest in work, importance
- 8) var. No. 101 : Wage conditions importance
- 9) var. No. 119 : ship's safety (level)
- 10) var. No. 129 : More wages importance
- 11) var. No. 130 : Loans (from employer) importance
- 12) var. No. 131 : Better work relations on board ship importance
- 13) var. No. 139 : Money bonus according to one's tenure at sea - years  
of service
- 14) var. No. 140 : More responsibility of command importance
- 15) var. No. 164 : Evaluation of (respondent's) occupational advancement
- 16) var. No. 170 : Being 'fed-up' with wandering as a seaman
- 17) var. No. 186 : Friendly superiors at sea (general level of)
- 18) var. No. 192 : Obtaining explanations from superiors on board the ship
- 19) var. No. 193 : Participation in decision making - ship's management
- 20) var. No. 194 :       "       "       "       "       - subordinates'  
work - output evaluation
- 21) var. No. 195       "       "       "       "       subordinates' division  
of labour
- 22) var. No. 196 :       "       "       "       "       appraisal/evaluation  
of subordinates'  
productivity

Phase No. 3 includes (satisfaction) five variables :

- 1) var. No. 040 : Job satisfaction
- 2) var. No. 043 : Wage satisfaction
- 3) var. No. 045 : Work satisfaction
- 4) var. No. 091 : Shore leaves satisfaction
- 5) var. No. 153 : Agreement with union's activity

Phase No. 4 includes (propensities) three variables :

- 1) var. No. 143 (respondent would) tend to send his child to a nautical  
H. School
- 2) var. No. 144 : (chances - level of) respondent would change occupation  
next five years
- 3) var. No. 145 : (chances - level of) respondent would change employer  
within next five years

Phase 5 includes (Job search, actually) two variables :

- 1) var. No. 108 : (respondent) has actually searched for a job in another  
shipping company lately
- 2) var. No. 109 : (respondent) has actually searched for a job ashore  
lately

Phase No. 6 includes (Intentions) two variables

- 1) var. No. 050 : Behavioural intention - to remain
- 2) var. No. 128 : Behavioural intention - to quit

Phase No. 7 includes (labour market job opportunities and reference  
group influences) fifteen variables

- 1) var. No. 001 : (respondent's) family (is) against his being a seaman
- 2) var. No. 002 : (respondent) does not like the human element sailing  
-----on-board-ships-----

Phase No. 7 (continued)

- 3) var. No. 030 : Self status (evaluation) in shore (local dwelling area)  
- labour market
- 4) var. No. 049 : Nautical officers' social prestige (respectfullness)  
ashore - as respondent thinks it is judged by shore  
people
- 5) var. No. 071 : Sailing for too long life period (time) at sea, is bad  
for shore life after one has retired/been quitting
- 6) var. No. 084 : Comparison (by respondent's point of view) between shore  
to sea income levels
- 7) var. No. 093 : Actual social pressure (by family/friends) to quit  
seafaring
- 8) var. No. 106 : (respondent's evaluation) of possible (vacant) job  
opportunities in other shipping companies (he could obtain)
- 9) var. No. 107 : (respondent's evaluation) of possible (vacant) job  
opportunities in the shore labour market (he could obtain)
- 10) var. No. 110 : (respondent's) fear of redundancy due to present economic  
situation in the world maritime industry
- 11) var. No. 126 : (respondent's) evaluation of to-date (quit/stay)  
intentions of other fellow seamen
- 12) var. No. 172 : Social esteem ashore of seaman's occupation
- 13) var. No. 173 : People ashore are more pleasant than seamen on board  
ships
- 14) var. No. 174 : Work ashore is more interesting than at sea
- 15) var. No. 176 : Shore-work causes higher satisfaction than work at sea

Phase No. 8 includes (commitment behaviour) two variables

- 1) var. No. 072 : Sea-time in 1976
- 2) var. No. 141 : Sea-time in 1982

This list of variables is more complete than the previous one and the results obtained, if the same analysis procedures are conducted (see in the appendix), would produce the same results (for this list includes the former variables as well). This list yields a 59 x 59 variables matrix of correlations from which the reader would find his requested information difficult to obtain. We therefore employed the following procedural steps of analysis :

- a) For each and every group (phase) of variables, a test of factor analysis was conducted, the results of which were the "principal-component" factors for each group. The following procedures were conducted by use of S.A.A. statistics (1982). Principal component analysis was originated by Pearson (1901) and later developed by Hotelling (1933). Discussion and usage of this method can be found in Rao (1964), Cooley and Lohnes (1971), Gnanadeskian (1977), Kshirsager (1972), Morrison (1976) and Mardia, Kent and Bibby (1979).
- b) Each of the principal component factors obtained a 'factor score' which was attached to all 300 observations (one observation deleted due to insufficient answers in the questionnaire).
- c) Each of the 19 components obtained ( described later on in this chapter), are seen as new synthetic variables, from which we produce :-
  - c.1 A correlation matrix,
  - c.2 Inverse correlation matrix
  - c.3 Computed partial correlations to obtain the highest order corr,  
by use of Pollatchek's formula (as employed on the former 25  
variables)

c.4 The same as c.1 to C.3, procedure, but only for the first principal component if more than one component was obtained for any group (phase) of variables.

- d) Step-wise regression tests were conducted between the various factors as the dependent variables, with the original variables of 'labour market job opportunities and reference group'. This set of tests was intended to sustain our hypothesis concerning the structural centrality of these variables.

This phase of the last group of analytical steps should lead us to the final proof of our reorganised model and the main hypotheses, including the feedback element which was neglected in the literature.

First, we should report the factor analysis results.

Phase one. The eight variables of this group were divided into three principal components. As such, these three explain 61% of the group's variance. The first component (explaining 31.97% of the variance), includes the following : Vars. No. 16,17,37,53. These are the actual definition of the seaman's present social professional status (Marital status, Year of marriage, Sea-rank Group and Tenure at sea, in years). As we have already found in Chapter Five, these variables are one's situational environmental variables, especially if attention is drawn to the close relationship between variables No. 37 (Sea-rank group) and No. 53 (Tenure at sea - in years). This relationship is demonstrated in Table 6.4 ( $R = .67063$ ,  $p = 0.0$ ).



Table No. 6.4

"CROSSTAB", SEA-RANK-GROUP (VAR. NO. 37) WITH TENURE AT SEA (VAR.NO. 53)

Tenure in years Sea-rank-Group	Up to 3 years	4-5 years	6-8 years	9-11 years	12-15 years	16 - years	Total
Junior officers	105	31	23	9	11	13	192
First officers	2	4	22	16	9	5	58
Seniors			2	10	14	25	51
Total	107	35	47	35	34	43	301

(Pearson R = 0.67063      Significance p = 0.0)

The second main component of this first phase explains 15.3% of the variance, and includes var. Nos. 4,10 and 24, which define the respondent's socio-economic origin and background (continent of birth, father's occupation and ownership of flat, respectively).

The third principal component explains 13.64% of the variance and includes only one variable : (var. No. 90) the employing shipping company, which we have already found out to represent the element of organisational environment. It is therefore interesting to note that this computer procedure is also free of the researcher's intervention. The above three components are utilised in the following tables 6.5 - 6.8 as Cont. 1, Cont. 2 and Cont. 3 respectively.

Analysis of the "expectations" phase resulted in six main components (called in Tables 6.5-6.8 as Expect 1,2,3,4,5,6 respectively). The first component of these six explains 31.98% of the group's variance, and includes the following variables : Var. Nos. 100,101, 119,129,131,139,140,186 and 192.

PRINCIPAL COMPONENT - FACTORS CORRELATIONS MATRIX

CONT.1	CONT. 2	CONT. 3	EXPECT. 1	EXPECT. 2	EXPECT. 3	EXPECT. 4	EXPECT. 5	EXPECT. 6	SAT.1	SAT.2	PROP.	JOB SEARCH	INVEN.	L.M.1	L.M.2	L.M.3	L.M.4	COMMIT- MENT
1.	-.0	-.0	-.0448	-.0293	-.1837	.0478	.3324	.0555	-.2154	-.0739	.0527	-.0162	.1737	-.0457	.0328	-.0316	-.1719	.1388
	1.	-.0	.1113	.0649	-.0348	-.0670	-.0924	.0428	-.0060	.1499	.0509	.0881	.1195	.0446	.0406	-.0165	.0286	.0346
		1.	-.1198	.0115	-.1135	-.0724	.0984	.0159	-.1440	-.0729	.0694	-.1169	.0261	-.0080	-.1374	.0897	-.0564	-.0637
			1.	-.0	.0	-.0	.0	-.0	.2382	.0965	.0358	.7828	.3734	.1264	.7169	-.1060	.0642	-.1424
				1.	.0	-.0	-.0	-.0	-.0552	.0708	.1846	.0262	.0870	.9307	-.1289	.0088	.0018	.0290
					1.	.0	.0	.0	.1751	-.0622	-.0054	.0912	-.0680	.1715	.1338	.0021	.0392	.0090
						1.	.0	.0	.4930	-.0721	-.1097	-.0614	-.1816	-.0104	-.0280	.1458	-.0355	.0873
							1.	-.0	-.0918	-.1140	.0725	-.0551	.0285	.0059	.0195	.0432	-.0081	.1336
								1.	-.2009	.1575	.0661	.0184	.0088	-.0039	-.1082	.0080	-.0236	.0449
									1.	.0	-.1007	.1764	-.0940	-.0213	.1894	.0742	.0415	-.0548
										1.	-.0375	.0132	.0420	.0529	.0339	-.0031	-.0371	.0057
											1.	.0577	.3211	.1596	.0199	.1288	-.0723	-.0122
												1.	.3158	.1473	.7599	-.0886	.0321	-.1667
													1.	.1134	.2763	-.1743	-.0143	.1045
														1.	-.0	.0	-.0	.0040
															1.	-.0	.0	-.1337
																1.	-.0	.0169
																	1.	-.0143
																		1.

Table No. 6.6

PRINCIPAL COMPONENT INVERSE CORRELATIONS MATRIX ..... (UPPER DIAGONAL)

Table No. 6.7

PRINCIPAL COMPONENTS' DEPENDENT CORRELATIONS OF THE HIGHEST ORDER (LOWER DIAGONAL)

Beginning of CONTRACT RELATIONS			EXPECTATIONS (WORK..JOB.OCCUPATION)						SATISFACTION		PROPEN- SITY	JOB- SEARCH	INTENT- IONS	LABOR MARKET JOB OPPORTUNITIES & SOCIAL REFERENCE GROUPS				COMMIT- MENT
1	2	3	1	2	3	4	5	6	1	2								
1.371	-.0520	.1040	.3017	.2048	.2517	-.2503	-.4239	-.0371	.2946	.0645	.0363	-.0834	-.2541	-.1679	-.1881	.0409	.1911	-.0605
.0430	1.0674	-.0295	.1466	-.2826	-.0331	.0678	.1082	-.0125	-.0187	-.1298	-.0234	-.0446	-.0539	.2601	.0754	-.0172	-.0327	-.0573
-.0848	.0272	1.0972	.0838	.1624	.1302	.0192	-.1349	-.0039	.0984	.0772	-.0092	.0016	-.1093	-.1571	.1180	-.1120	.0674	.1145
-.1362	.0750	.0423	3.5785	1.3829	.6344	-.1008	-.2574	-.1547	-.4180	-.2033	.0622	-1.612	-.5324	-1.538	-1.006	.1771	-.0145	.1148
-.0519	.0811	-.0460	.2168	11.368	1.9202	-.0697	-.0714	-.0257	-.2988	-.2086	-.4362	-.0921	-.0853	-10.96	.3960	.0987	-.1624	-.0754
-.1735	.0259	.1004	-.2707	-.4598	1.5345	.1142	-.0954	-.1296	-.3157	.0671	-.0774	-.0590	.0402	-2.108	-.3266	.0678	-.0411	-.0656
.1725	-.0530	-.0148	.0430	.0167	-.0744	1.5354	.0517	-.1795	-.8537	.1337	.0616	.2162	.1866	-.0289	.0001	-.1337	.4076	-.1397
.3285	-.0951	.1168	.1235	.0192	.0699	-.0378	1.2147	.0009	.0225	.0956	-.0848	.2529	.1075	.0436	-.0890	-.0330	-.0636	-.1359
.0294	.0112	.0035	.0760	.0071	.0973	.1347	-.0008	1.1572	.3532	-.2029	.0034	-.2998	.0200	.1270	.4047	-.0499	.0173	-.0281
-.1906	.0137	-.0712	.1674	.0671	.1931	.5219	-.0155	-.2487	1.7426	-.0651	.0504	-.1220	.0523	.4370	.0784	-.0586	.0089	.0541
-.0520	.1187	-.0696	.1015	.0585	.0512	-.1020	-.0820	.0572	.0517	1.1206	.0723	.2516	-.0152	.1103	-.1129	-.0300	.0716	-.0180
-.0278	.0203	.0079	-.0295	.1161	.0561	-.0446	.0690	-.0003	-.0342	-.0613	1.2428	-.0649	-.4561	.2750	.0624	-.2435	.0950	.0903
.0376	.0228	-.0008	.4505	.0144	.0252	-.0922	-.1213	.1473	.0488	-.1256	.0308	3.5823	-.0060	-.2355	-1.561	.1188	-.0079	.1264
.1754	.0421	.0842	.2272	.0204	-.0262	-.1215	-.0787	.0150	.0320	.0116	.3301	.0025	1.5355	.0336	-.0880	.2393	-.0247	-.2555
.0419	-.0735	.0438	.2374	.9494	.4971	.0068	-.0116	-.0344	-.0966	-.0304	-.0720	.0363	-.0079	11.730	.0433	-.1308	.1735	.0604
.0915	-.0415	-.0641	.3027	-.0668	.1501	-.0000	.0460	-.2142	-.0338	.0607	-.0319	.4698	.0404	-.0072	3.0861	-.2928	.1043	.0463
-.0328	.0156	.1003	-.0877	-.0274	-.0513	.1011	.0281	-.0434	.0416	.0265	.2046	-.0588	-.1810	.0358	.1562	1.1387	-.0364	-.0418
-.1586	.0308	-.0626	.0075	.0468	.0323	-.0373	.0560	-.0156	-.0066	-.0621	-.0828	.0040	.0194	-.0492	-.0577	.0332	1.0594	-.0017
.0487	.0522	-.1033	-.0572	.0211	.0499	.1062	.1161	.0246	-.0386	.0160	-.0763	-.0629	.1942	-.0166	-.0248	.0369	.0015	1.1270

These define the seaman's expectations from work, job features, conditions and rewards (wage, work interest, safety, work-relations, superiors, bonus and information explaining work requirements).

The second component of this group explains 12.8% of the variance, and includes variables No. 70, 164 and 170 (sea-life causes turnover, evaluation of professional advancement, being fed up with wandering - or being a 'marginal' social entity). This group defines one's higher order needs expectations.

The third of these components explains 9.39% of variance, and includes the following four variables : Var. No. 193,194,195,196 which define one's expectations of participation in the decision-making on board the ship, evaluation of one's subordinates and their work quality, one's wish to control the division of labour among his subordinates, and his appraisal of their work output.

The fourth component explains 6.12% of the group's variance and includes two variables : No. 47 and 48, which define one's social relations on the job with his superiors and peers while on board ship.

The fifth component explains 5.08% of the variance and includes variables No. 51 and 75 which define his expectations for socio-economic status and interest in work.

The sixth component explains 4.74% of the group's variance, including only one variable, No. 62, defining one's expectations of the ship's social life capacities.

Reviewing these six components, we find their relative importance quite significant. Whereas the first is concerned with expectations from work conditions, the second defines occupational attractiveness among employees while the third, fourth and the fifth define participation expectations, social expectations and economic expectations respectively. The sixth defines expectations for the social life atmosphere on board. In total, all these six principal components explain 70.11% of the variance.

The satisfaction phase includes five variables, divided into two principal components, explaining the total of 65.60% of the variance. The main component, which explains 44.61% of the group's variance, includes Var. Nos. 40, 43 and 45 which define job, work and wages satisfaction. The second principal component, explaining 20.99% of the variance, includes two variables defining satisfaction from work conditions (shore leave) and agreement with the union's activity.

The seventh phase is that of the labour market job opportunity and reference groups ashore, influencing the seafarer's evaluation of the various phases of the process studied. This group of variables includes 15 vars, which the factoring test identifies as four principal components explaining the total of 69.3% of the group's variance. The first principal component of this group, explaining 39.55% of the variance, includes var. nos. 1, 2, 71, 172, 173, 174, 176. These define the seafarer's evaluation of comparing sea to shore social life and socio-economic and occupational rewards with the attitudes of his social reference group.

The second component explaining 14.37% of the variance, includes Var. Nos. 106, 107, 110 and 126, which define the seafarer's evaluation of his chances and potential job vacancies in the shipping institution, shore labour market and opportunities.

The third component explaining 7.82% of the variance, includes only two variables, var. Nos. 30 and 49, which define one's evaluation of his social status and prestige ashore and the potential occupational assets he possesses for obtaining a job in his living place ashore.

The fourth component, explaining 7.56% of the variance, includes vars. nos. 84 and 93, which define the social and economic stress under which the respondent lives and behaves when comparing his wages to shore income on the one hand, and pressure from family and friends, demanding that he quits his nautical occupation, on the other hand.

All the other groups of variables yield each one principal component factor. The result of this analytic procedure is that we have obtained 19 factors, each of which was given automatically a 'factor score' that could be attached to each observation (questionnaire). These are now seen as synthetic variables representing our 59 variables included in the present procedural step. Although the 19 principal factors explain less than one hundred percent of the variance, if more than one factor was obtained in a certain phase, we believe that they should reveal the main interrelationships between the phases of the process studied. We suggest that using these 19 "new variables" in the same manner employed for the original 25 former variables, would justify the proposed theoretical model as empirically computed by use of (a) correlation matrix, (b) inverse matrix, and (c) higher order correlations - using the Pollatchek formula (See Tables 6.5, 6.6, 6.7 and Fig. 6.3 and 6.4).

Notice, that in Table 6.5 of the Principal component factors Correlations Matrix, the results obtained among factors of the same group of world-contents are zero, which support the assumption that these components have

Fig. No. 6.3 DEPENDENT HIGHEST CORRELATIONS -(among all principal components)

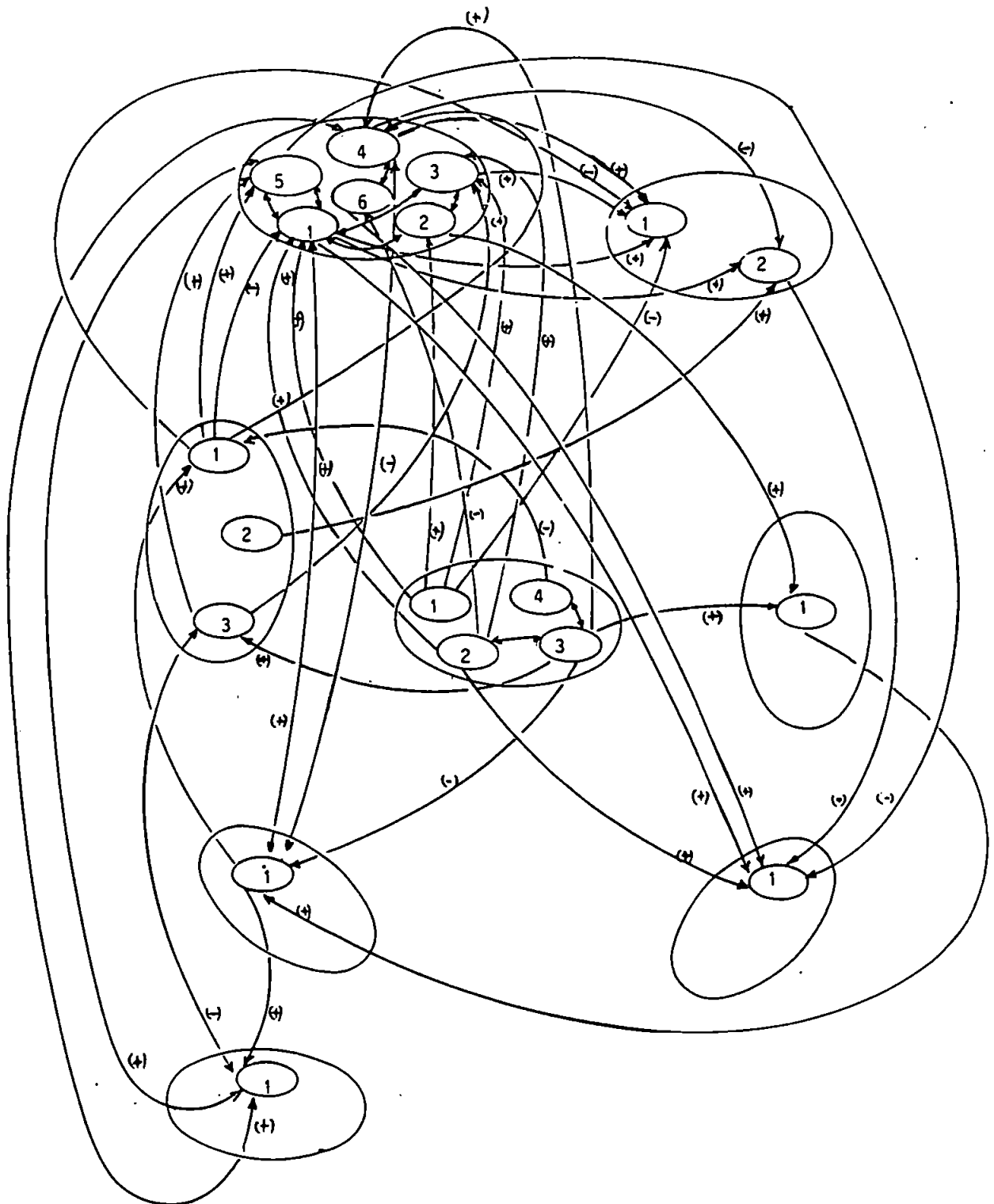
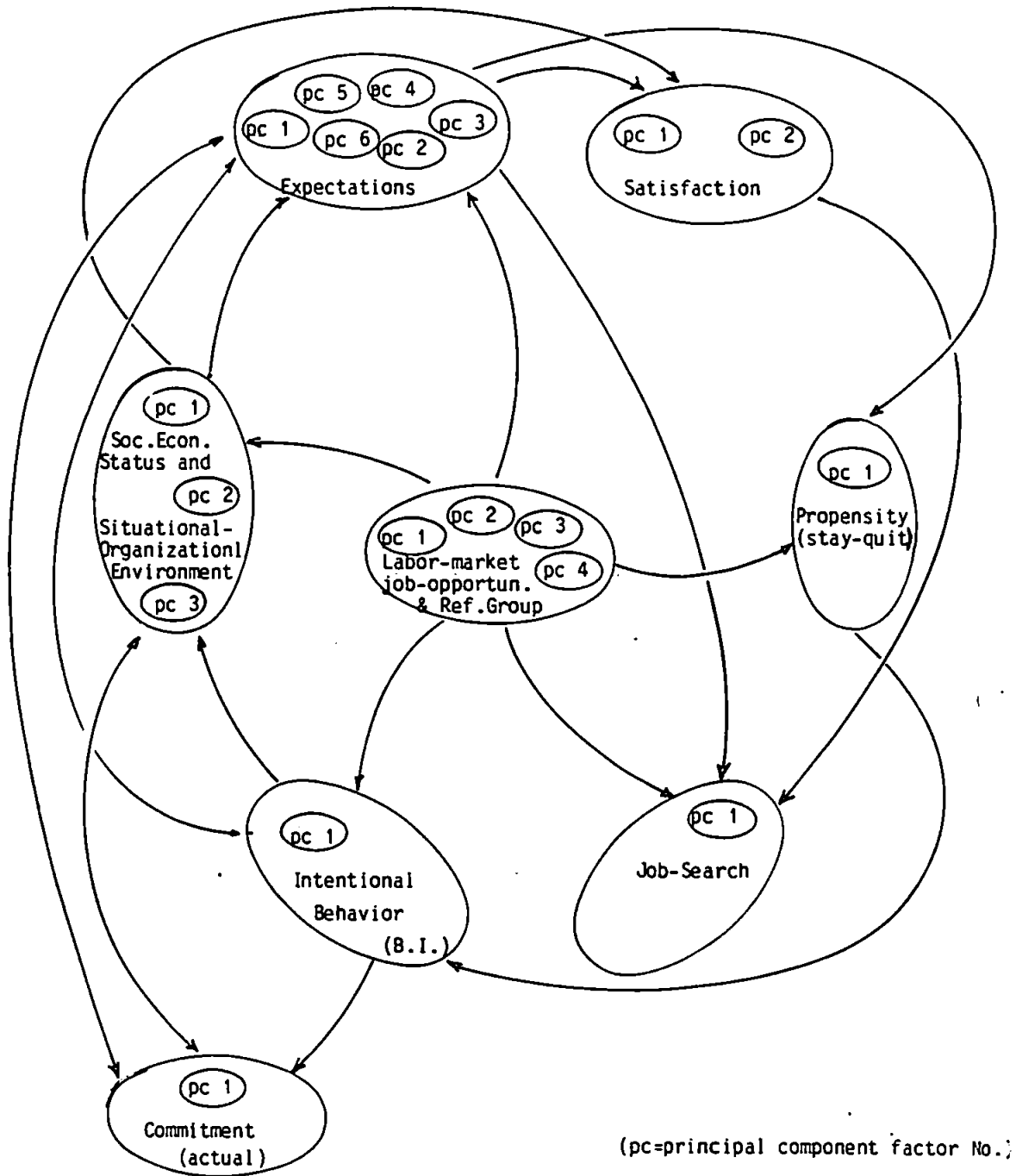


Fig. No. 6.4

PLOTTING OF CAUSALITY RELATIONS AMONG THE  
PRINCIPAL COMPONENTS FACTORS





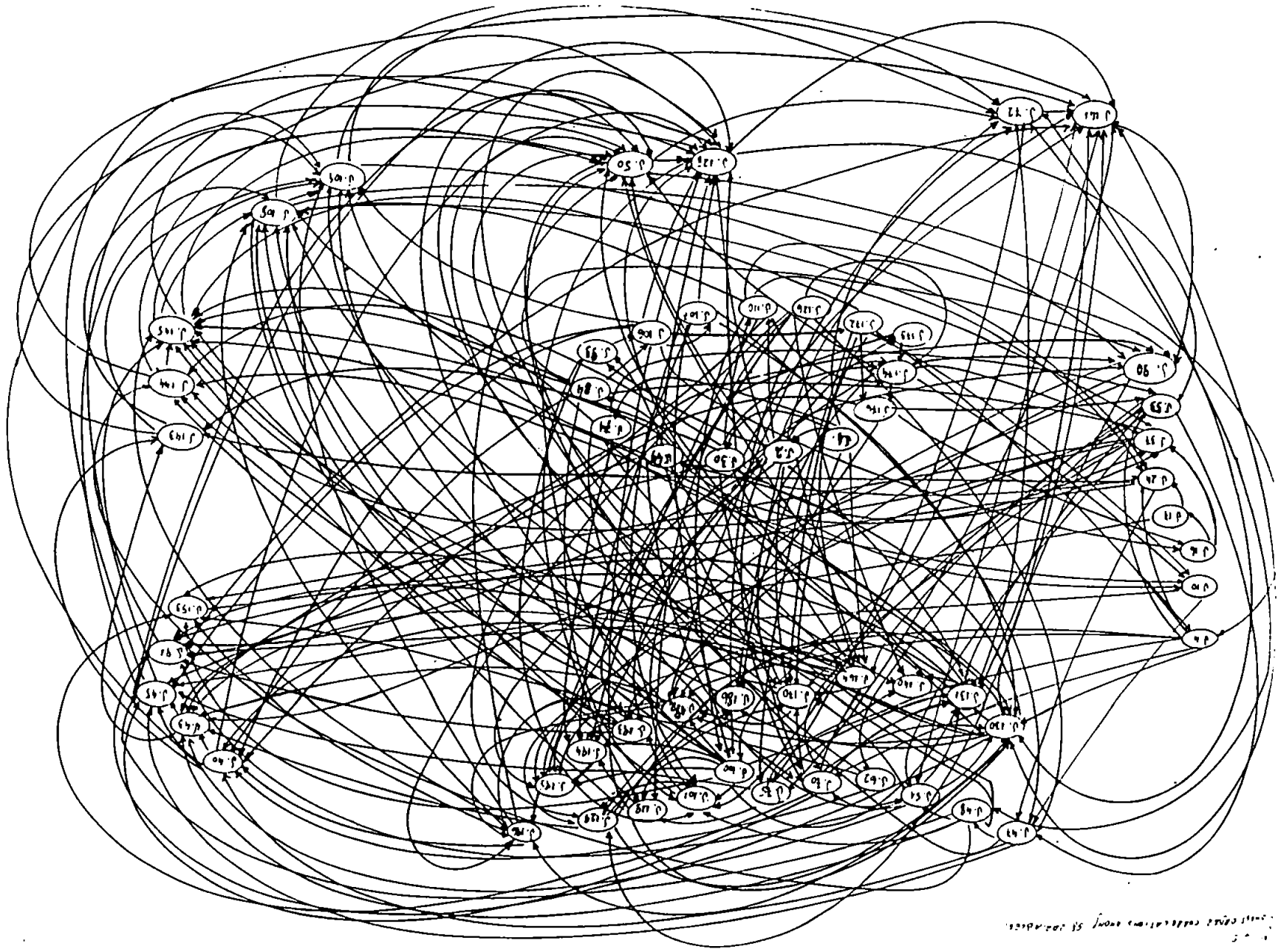
**Table No. 6.8 (a)**

**Dependent correlations matrix of the highest order**

continent of birth	10	16	17	24	37	53	66	47	48	51	62	70	75	100	101	119	129	130	131	140	164	170	186	192	193	194	195	196
father's present occupation	10	16	17	24	37	53	66	47	48	51	62	70	75	100	101	119	129	130	131	140	164	170	186	192	193	194	195	196
marital status	10	16	17	24	37	53	66	47	48	51	62	70	75	100	101	119	129	130	131	140	164	170	186	192	193	194	195	196
year to marriage	10	16	17	24	37	53	66	47	48	51	62	70	75	100	101	119	129	130	131	140	164	170	186	192	193	194	195	196
ownership of flat	10	16	17	24	37	53	66	47	48	51	62	70	75	100	101	119	129	130	131	140	164	170	186	192	193	194	195	196
sea - rank - group	10	16	17	24	37	53	66	47	48	51	62	70	75	100	101	119	129	130	131	140	164	170	186	192	193	194	195	196
tenure (years) as seafarer	10	16	17	24	37	53	66	47	48	51	62	70	75	100	101	119	129	130	131	140	164	170	186	192	193	194	195	196
employing shipping company	10	16	17	24	37	53	66	47	48	51	62	70	75	100	101	119	129	130	131	140	164	170	186	192	193	194	195	196
relations with superiors aboard ship	10	16	17	24	37	53	66	47	48	51	62	70	75	100	101	119	129	130	131	140	164	170	186	192	193	194	195	196
(rate of) socializes with other seamen ashore	10	16	17	24	37	53	66	47	48	51	62	70	75	100	101	119	129	130	131	140	164	170	186	192	193	194	195	196
present wage rank	10	16	17	24	37	53	66	47	48	51	62	70	75	100	101	119	129	130	131	140	164	170	186	192	193	194	195	196
ship's social life importance	10	16	17	24	37	53	66	47	48	51	62	70	75	100	101	119	129	130	131	140	164	170	186	192	193	194	195	196
sea-life itself causes turnover	10	16	17	24	37	53	66	47	48	51	62	70	75	100	101	119	129	130	131	140	164	170	186	192	193	194	195	196
interest in work	10	16	17	24	37	53	66	47	48	51	62	70	75	100	101	119	129	130	131	140	164	170	186	192	193	194	195	196
interest in work importance	10	16	17	24	37	53	66	47	48	51	62	70	75	100	101	119	129	130	131	140	164	170	186	192	193	194	195	196
wage conditions importance	10	16	17	24	37	53	66	47	48	51	62	70	75	100	101	119	129	130	131	140	164	170	186	192	193	194	195	196
ship's safety level	10	16	17	24	37	53	66	47	48	51	62	70	75	100	101	119	129	130	131	140	164	170	186	192	193	194	195	196
more wages importance	10	16	17	24	37	53	66	47	48	51	62	70	75	100	101	119	129	130	131	140	164	170	186	192	193	194	195	196
loans importance	10	16	17	24	37	53	66	47	48	51	62	70	75	100	101	119	129	130	131	140	164	170	186	192	193	194	195	196
importance of better work relations aboard ship	10	16	17	24	37	53	66	47	48	51	62	70	75	100	101	119	129	130	131	140	164	170	186	192	193	194	195	196
more responsibility of command importance	10	16	17	24	37	53	66	47	48	51	62	70	75	100	101	119	129	130	131	140	164	170	186	192	193	194	195	196
evaluation of occupational advancement	10	16	17	24	37	53	66	47	48	51	62	70	75	100	101	119	129	130	131	140	164	170	186	192	193	194	195	196
being 'fed-up with wandering' as a seafarer	10	16	17	24	37	53	66	47	48	51	62	70	75	100	101	119	129	130	131	140	164	170	186	192	193	194	195	196
friendly superiors at sea (level of)	10	16	17	24	37	53	66	47	48	51	62	70	75	100	101	119	129	130	131	140	164	170	186	192	193	194	195	196
obtaining explanations from superiors on board the ship	10	16	17	24	37	53	66	47	48	51	62	70	75	100	101	119	129	130	131	140	164	170	186	192	193	194	195	196
participation - in ship's management	10	16	17	24	37	53	66	47	48	51	62	70	75	100	101	119	129	130	131	140	164	170	186	192	193	194	195	196
evaluation of subordinates' work output	10	16	17	24	37	53	66	47	48	51	62	70	75	100	101	119	129	130	131	140	164	170	186	192	193	194	195	196
participation-subordinates' deviation of labor	10	16	17	24	37	53	66	47	48	51	62	70	75	100	101	119	129	130	131	140	164	170	186	192	193	194	195	196
evaluation of subordinates' productivity	10	16	17	24	37	53	66	47	48	51	62	70	75	100	101	119	129	130	131	140	164	170	186	192	193	194	195	196

Table No. 6.8 (b)

	40	43	45	91	153	143	144	145	108	109	50	128	1	2	30	49	71	84	93	106	107	110	126	172	173	174	176	72	141
job satisfaction	-.090	-.072	-.061	-.026	-.009	-.038	-.040	-.082	-.060	-.020	-.169	-.002	-.064	-.019	-.024	-.010	-.084	-.051	-.040	-.082	-.076	-.060	-.082	-.122	-.000	-.041	-.051	-.057	-.063
wage satisfaction	-.050	-.029	-.010	-.113	-.067	-.003	-.019	-.072	-.016	-.071	-.049	-.077	-.050	-.003	-.101	-.034	-.133	-.046	-.055	-.132	-.029	-.076	-.070	-.100	-.056	-.132	-.005	-.033	-.018
	-.070	-.033	-.003	-.025	-.065	-.031	-.090	-.055	-.046	-.056	-.010	-.061	-.053	-.003	-.049	-.020	-.048	-.049	-.022	-.154	-.085	-.073	-.085	-.025	-.044	-.102	-.102	-.031	-.006
	-.097	-.063	-.100	-.021	-.054	-.067	-.058	-.049	-.094	-.097	-.028	-.024	-.051	-.087	-.051	-.014	-.047	-.028	-.020	-.015	-.023	-.101	-.010	-.029	-.080	-.017	-.083	-.028	-.037
	-.001	-.059	-.069	-.047	-.129	-.190	-.053	-.074	-.128	-.100	-.027	-.056	-.009	-.010	-.109	-.011	-.023	-.043	-.018	-.038	-.054	-.088	-.044	-.040	-.055	-.034	-.054	-.081	-.062
	-.079	-.048	-.033	-.043	-.116	-.013	-.021	-.056	-.032	-.086	-.099	-.048	-.014	-.001	-.116	-.183	-.024	-.132	-.066	-.034	-.019	-.144	-.086	-.070	-.007	-.109	-.054	-.055	-.044
	-.050	-.040	-.016	-.035	-.086	-.022	-.121	-.069	-.050	-.035	-.063	-.120	-.005	-.009	-.116	-.034	-.110	-.046	-.063	-.003	-.054	-.023	-.092	-.081	-.008	-.102	-.058	-.058	-.049
	-.025	-.152	-.041	-.000	-.085	-.015	-.009	-.079	-.151	-.080	-.041	-.020	-.047	-.131	-.050	-.131	-.035	-.155	-.021	-.036	-.076	-.191	-.008	-.009	-.015	-.142	-.077	-.016	-.131
	-.162	-.071	-.119	-.056	-.081	-.033	-.037	-.078	-.070	-.146	-.124	-.054	-.024	-.016	-.069	-.093	-.095	-.051	-.076	-.025	-.161	-.075	-.164	-.009	-.026	-.035	-.083	-.026	-.046
	-.073	-.221	-.377	-.071	-.090	-.024	-.114	-.059	-.056	-.074	-.111	-.102	-.080	-.067	-.064	-.026	-.023	-.029	-.001	-.076	-.050	-.002	-.053	-.050	-.009	-.080	-.040	-.139	-.146
	-.016	-.266	-.071	-.126	-.063	-.067	-.114	-.045	-.060	-.087	-.000	-.060	-.035	-.081	-.002	-.218	-.070	-.019	-.042	-.059	-.046	-.038	-.013	-.021	-.009	-.063	-.092	-.039	-.156
	-.205	-.021	-.024	-.040	-.115	-.082	-.028	-.024	-.010	-.011	-.102	-.061	-.078	-.051	-.009	-.077	-.060	-.080	-.067	-.084	-.097	-.008	-.143	-.052	-.057	-.061	-.130	-.035	-.006
	-.060	-.067	-.110	-.038	-.103	-.070	-.051	-.090	-.054	-.078	-.090	-.040	-.165	-.078	-.077	-.036	-.308	-.047	-.061	-.056	-.044	-.009	-.048	-.033	-.075	-.083	-.049	-.092	-.035
	-.065	-.161	-.069	-.060	-.091	-.025	-.082	-.098	-.018	-.030	-.090	-.072	-.038	-.057	-.077	-.066	-.020	-.073	-.095	-.099	-.095	-.031	-.056	-.157	-.097	-.032	-.053	-.126	-.126
	-.067	-.113	-.076	-.104	-.087	-.060	-.066	-.087	-.311	-.104	-.026	-.124	-.031	-.010	-.072	-.051	-.107	-.105	-.095	-.046	-.198	-.143	-.198	-.048	-.007	-.005	-.020	-.035	-.038
	-.021	-.002	-.053	-.024	-.009	-.031	-.022	-.000	-.311	-.104	-.026	-.124	-.031	-.010	-.072	-.051	-.107	-.105	-.095	-.046	-.198	-.143	-.198	-.048	-.007	-.005	-.020	-.035	-.038
	-.057	-.211	-.004	-.066	-.064	-.017	-.026	-.000	-.207	-.145	-.000	-.090	-.011	-.010	-.064	-.022	-.021	-.124	-.115	-.060	-.132	-.054	-.067	-.020	-.062	-.033	-.013	-.023	-.134
	-.015	-.076	-.011	-.173	-.007	-.002	-.134	-.143	-.202	-.135	-.103	-.028	-.034	-.090	-.009	-.148	-.073	-.031	-.009	-.017	-.106	-.061	-.009	-.006	-.017	-.060	-.039	-.111	-.156
	-.091	-.038	-.121	-.131	-.077	-.012	-.025	-.042	-.021	-.025	-.141	-.257	-.052	-.139	-.003	-.021	-.038	-.028	-.070	-.033	-.035	-.079	-.062	-.096	-.023	-.042	-.083	-.173	-.109
	-.138	-.148	-.014	-.110	-.114	-.041	-.071	-.192	-.091	-.039	-.036	-.041	-.007	-.027	-.020	-.015	-.161	-.020	-.033	-.038	-.067	-.099	-.203	-.023	-.040	-.034	-.075	-.018	-.034
	-.019	-.049	-.004	-.048	-.013	-.094	-.051	-.127	-.032	-.122	-.014	-.085	-.133	-.023	-.030	-.040	-.113	-.056	-.001	-.065	-.030	-.012	-.045	-.184	-.048	-.028	-.097	-.064	-.002
	-.013	-.057	-.059	-.053	-.059	-.022	-.016	-.049	-.176	-.021	-.099	-.077	-.051	-.100	-.080	-.094	-.073	-.026	-.032	-.042	-.024	-.053	-.093	-.074	-.025	-.105	-.044	-.053	-.084
	-.007	-.166	-.058	-.008	-.054	-.001	-.178	-.151	-.091	-.035	-.104	-.005	-.067	-.027	-.086	-.077	-.028	-.098	-.068	-.032	-.096	-.048	-.156	-.004	-.027	-.000	-.109	-.040	-.077
	-.016	-.075	-.062	-.143	-.048	-.088	-.146	-.151	-.130	-.077	-.098	-.050	-.000	-.117	-.013	-.093	-.077	-.024	-.039	-.003	-.096	-.048	-.156	-.004	-.027	-.000	-.109	-.040	-.077
	-.002	-.076	-.009	-.023	-.004	-.061	-.019	-.017	-.015	-.028	-.004	-.069	-.019	-.155	-.033	-.011	-.065	-.065	-.050	-.020	-.200	-.105	-.047	-.055	-.017	-.025	-.047	-.084	-.055
	-.077	-.026	-.082	-.032	-.040	-.029	-.081	-.026	-.066	-.106	-.020	-.011	-.018	-.198	-.087	-.003	-.120	-.079	-.043	-.093	-.047	-.082	-.117	-.034	-.013	-.104	-.052	-.039	-.020
	-.019	-.026	-.040	-.081	-.132	-.080	-.085	-.130	-.131	-.166	-.137	-.003	-.045	-.041	-.059	-.087	-.097	-.082	-.028	-.001	-.001	-.094	-.182	-.095	-.006	-.065	-.011	-.045	-.067
	-.263	-.473	-.038	-.094	-.215	-.058	-.021	-.083	-.178	-.091	-.226	-.057	-.070	-.059	-.033	-.031	-.160	-.031	-.176	-.008	-.019	-.090	-.013	-.070	-.019	-.146	-.033	-.059	-.059
	-.160	-.026	-.029	-.119	-.053	-.011	-.073	-.068	-.023	-.057	-.057	-.054	-.054	-.047	-.105	-.205	-.030	-.064	-.006	-.115	-.059	-.068	-.067	-.066	-.006	-.069	-.097	-.011	-.069
	-.020	-.049	-.038	-.021	-.197	-.291	-.197	-.291	-.153	-.223	-.153	-.223	-.082	-.050	-.081	-.030	-.019	-.033	-.032	-.095	-.075	-.058	-.035	-.053	-.022	-.034	-.036	-.111	-.061
	-.075	-.029	-.019	-.127	-.091	-.004	-.091	-.004	-.039	-.046	-.039	-.046	-.016	-.105	-.082	-.102	-.093	-.008	-.076	-.026	-.026	-.143	-.099	-.001	-.085	-.068	-.024	-.091	-.197
	-.072	-.036	-.042	-.004	-.013	-.031	-.091	-.060	-.007	-.027	-.005	-.006	-.007	-.027	-.005	-.006	-.027	-.026	-.025	-.091	-.025	-.073	-.095	-.048	-.020	-.071	-.067	-.031	-.034
	-.070	-.026	-.040	-.081	-.132	-.080	-.085	-.130	-.131	-.166	-.137	-.003	-.045	-.041	-.059	-.087	-.097	-.082	-.028	-.001	-.001	-.094	-.182	-.095	-.006	-.065	-.011	-.045	-.067
	-.263	-.473	-.038	-.094	-.215	-.058	-.021	-.083	-.178	-.091	-.226	-.057	-.070	-.059	-.033	-.031	-.160	-.031	-.176	-.008	-.019	-.090	-.013	-.070	-.019	-.146	-.033	-.059	-.059
	-.160	-.026	-.029	-.119	-.053	-.011	-.073	-.068	-.023	-.057	-.057	-.054	-.054	-.047	-.105	-.205	-.030	-.064	-.006	-.115	-.059	-.068	-.067	-.066	-.006	-.069	-.097	-.011	-.069
	-.020	-.049	-.038	-.021	-.197	-.291	-.197	-.291	-.153	-.223	-.153	-.223	-.082	-.050	-.081	-.030	-.019	-.033	-.032	-.095	-.075	-.058	-.035	-.053	-.022	-.034	-.036	-.111	-.061
	-.075	-.029	-.019	-.127	-.091	-.004	-.091	-.004	-.039	-.046	-.039	-.046	-.016	-.105	-.082	-.102	-.093	-.008	-.076	-.026	-.026	-.143	-.099	-.001	-.085	-.068	-.024	-.091	-.197
	-.072	-.036	-.042	-.004	-.013	-.031	-.091	-.060	-.007	-.027	-.005	-.006	-.007	-.027	-.005	-.006	-.027	-.026	-.025	-.091	-.025	-.073	-.095	-.048	-.020	-.071	-.067	-.031	-.034
	-.070	-.026	-.040	-.081	-.132	-.080	-.085	-.130	-.131	-.166	-.137	-.003	-.045	-.041	-.059	-.087	-.097	-.082	-.028	-.001	-.001	-.094	-.182	-.095	-.006	-.065	-.011	-.045	-.067
	-.263	-.473	-.038	-.094	-.215	-.058	-.021	-.083	-.178	-.091	-.226	-.057	-.070	-.059	-.033	-.031	-.160	-.031	-.176	-.008	-.019	-.090	-.013	-.070	-.019	-.146	-.033	-.059	-.059
	-.160	-.026	-.029	-.119	-.053	-.011	-.073	-.068	-.023	-.057	-.057	-.054	-.054	-.047	-.105	-.205	-.030	-.064	-.006	-.115	-.059	-.068	-.067	-.066	-.006	-.069	-.097	-.011	-.069
	-.020	-.049	-.038	-.021	-.197	-.291	-.197	-.291	-.153	-.223	-.153	-.223	-.082	-.050	-.081	-.030	-.019	-.033	-.032	-.095	-.075	-.058	-.035	-.053	-.022	-.034	-.036	-.111	-.061
	-.075	-.029	-.019	-.127	-.091	-.004	-.091	-.004	-.039	-.046	-.039	-.046	-.016	-.105	-.082	-.102	-.093	-.008	-.076	-.026	-.026	-.143	-.099	-.001	-.085	-.068	-.024	-.091	-.197
	-.072	-.036	-.042	-.004	-.013	-.031	-.091	-.060	-.007	-.027	-.005	-.006	-.007	-.027	-.005	-.006	-.027	-.026	-.025	-.091	-.025	-.073	-.095	-.048	-.020	-.071	-.067	-.031	-.034
	-.070	-.026	-.040	-.081	-.132	-.080	-.085	-.130	-.131	-.166	-.137	-.003	-.045	-.041	-.059	-.087	-.097												



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distinct and clear cut differences, each having its special influence on the commitment process. This mode of analysis adds more to our knowledge of the commitment process than what has yet been found in the reviewed literature.

Based on the relationships drawn in Fig. 6.3, we obtain the model as in Fig. 6.4. Here also are found the expected results, although we do also obtain an important difference from Fig. 6.2. Basically, the relationships found by Bluedorn (1982) in his unified model, are found here too. The process leading toward commitment begins with the contract relations between the seafarer and his shipping company, leading to commitment through the 'expectations', 'satisfaction', 'propensities', 'job search', 'intentions' phases. It is also established that there is a central role and importance which should be attached to the 'labour market job opportunities, and reference groups' variables. These do relate to all the various phases of our model, and act as the causal element upon which we base our notion of the 'feedback' element between the phases. When studying the principal component factors (Fig. 6.4), we have found some deviation from the general expected structure. Here the relationship between 'satisfaction' and 'labour market job opportunities, and reference groups' does not occur. We also miss the relationship between 'satisfaction' and 'propensities', already found when analysing the original 25 variables (Fig. 6.2). The only logical reason for this finding is due, perhaps, to the fact that we deal with seafarers who, when sailing on board the ships, do experience the 'satisfaction' feelings, but do so in such a time that they are simply cut off from shore information sources and cannot actually compare their feeling with information data they do not have. When interviewing the officers before they had answered the formal research questions, it was often suggested that they did not know what was going on (especially if asked to participate right after their last voyage). Until we have solved this problem of the lack of relations between the two phases, we do not believe it to be so significant in the structure of the model. Let us not forget that it may well be that this lack of relationship is due to the fact that here we analyse only the principal components' relations, for they do not

entirely explain the whole variance. We nevertheless were suspicious and have gone through the analysis of the 58 original variables by computing the correlation matrix and its inverse matrix, and partial correlations computation, leading to the similar results as in Fig. 6.2 (See Fig. 6.5 and 6.6). These missing relationships do occur again when we repeat the same analysis as with the 25 variables.

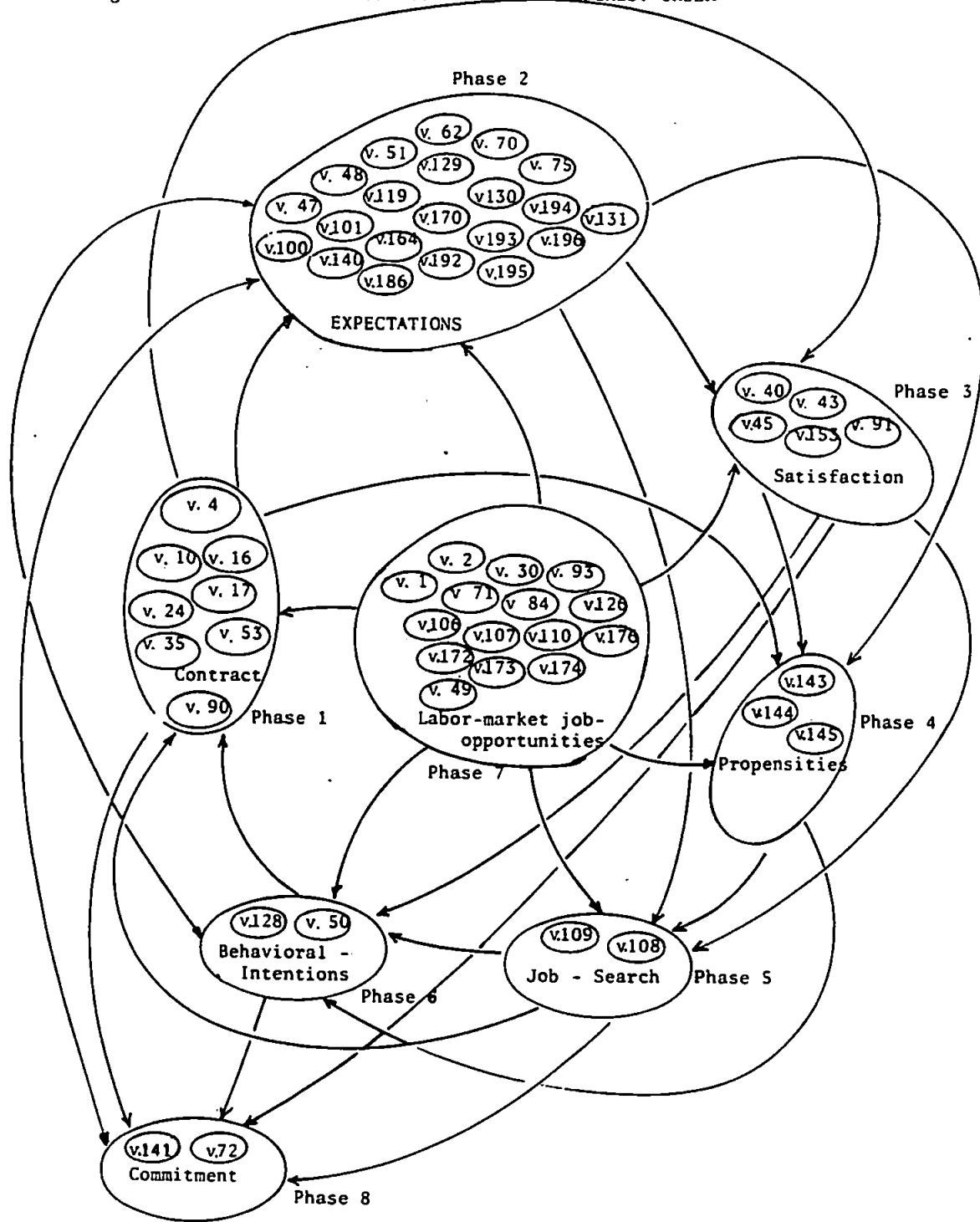
We can also conclude that the expected 'skipping' relations between phases 1 and 3, 2 and 4, 3 and 5, on the one hand, and between phases 1 and 4, 2 and 5, 3 and 6 etc. were found. This 'feedback' element of relations occurs again and again and supports our hypothesis beyond doubt (See Figs. 6.2, 6.4 and 6.6).

Our results also indicate that when there is a positive commitment, then the direction is positive from intentions to contract renewal. But when the commitment is negative, it is found that a negative relation exists between the first phase and commitment behaviour, as revealed in Fig. 6.4. As a result of the above conclusions, it is reasonable to assume that the structure of our cyclical model is justified.

Having drawn the main conclusions from the results obtained in the last analysis, it is now proper to enter into a deeper discussion of these results. Reviewing the highest order correlations among the principal components, as presented in Table 6.7 (Fig. 6.4), we may see even beyond the conclusions from the analysis done on the variables themselves (either on the 25 vars. as in the beginning of this chapter, or on the entire 58 vars. (as in Figs. 6.5 or 6.6).

It is clear that Cont. I - which is defining one's situational-environmental -occupational features - is related to all components of expectations, but

Fig.No. 6.6 DEPENDENT CORRELATION OF THE HIGHEST ORDER



not to 'Exp. 6' which defines one's expectations for social atmosphere on board the ship.

'Cont. 2', which defines one's socio-economic origins and background, does affect one's satisfaction from work conditions and not from the job itself.

'Cont. 3' which is defined as the organisational environmental component does affect the components of expectations, that of 'Exp. 3' and 'Exp. 5', which are the expectations to influence and participate in the decision-making and expectations of economic rewards and returns from one's work.

Another group of conclusions that can be drawn from Fig. 6.4 is about the influencing effects of labour market job opportunities and reference groups variables. The first component among these, (L.M.I.) defined as one's evaluation and comparison between sea to shore social, economic and occupational life, does affect one's expectations from work and its various rewards, on the one hand, and one's satisfaction from job on the other (although this latter relationship is less significant and was therefore omitted from Fig. 6.4). A similar effect is found in the relationship between 'Lab.Mark 2' defined as job opportunities proper, and 'Exp. 6' defined as one's expectations for social relations on board the ship, on the one hand, and, on the other, it affects directly the actual job search (whether in another shipping company, or ashore outside the shipping industry).

We also see that evaluation of the seafarers' social status and prestige, or the potential assets for one's occupation ashore, (Lab.Mark.3) does affect directly one's propensities (positive relationship) and one's intentions (negative relationship). Although expected, but not in the



following manner, we find out that 'social pressure to quit' (Lab.Mark.4), the seafaring occupation, does affect directly (and negatively) one's 'return to work', as defined by 'Cont.I', which includes situational environmental variables.

In general, it is quite clear that principal component analysis does reveal more of the yet untouched relationships and yet unstudied effects among the various phases of the commitment process. Moreover, it sheds light on the 'skipping' relations and the feedback element, rather than just on the already studied relations of the step by step effects among the various phases, as shown by the Bluedorn (1982) model. This is understood mainly from Fig. 6.4 (or 6.6). For example, it can be seen in the effects between phase 2 of 'Expectations' and phase 4 of 'propensities' and with phase 5 'job search' and also with phase 6 'intentional behaviour'. Contrary to Bluedorn, the labour market job opportunities and reference groups variables, although affecting intentional behaviour, does not relate significantly to actual commitment behaviour (either positive or negative). This result leads us to the same analysis that we conducted on the first principal components of all eight phases (even if in this or that phase we did obtain more than one principal component, only the first one was considered). As we find out from Fig. 6.1, based on Tables 6.9 - 6.11, in which this analysis is presented, we can find the third level of 'environmental' effects upon the officers' commitment behaviour or intentions. Until now we have stressed the centrality of labour market job opportunity and reference groups' factor in the process toward commitment (positive as well as negative). Here it is hoped that we can see beyond that notion and beyond our feeling that these central variables affect all various phases in our process. Here effects are revealed from job opportunities and reference groups only upon 'propensities' and in turn, on intentional

Table No. 6.9

Correlation Matrix - (first principal component only)

contrc	expect	satisf	propen	j.serc	intent	l.m.jo	commit
1.0	-.0448	-.2154	.0527	-.0162	.1737	-.0467	.1388
	1.0	.2382	.0358	.7828	.3734	.1264	-.1424
		1.0	-.1007	.1764	-.0940	-.0213	-.0548
			1.0	.0577	.3211	.1596	-.0122
				1.0	.3158	.1473	-.1667
					1.0	.1134	.1045
						1.0	.0040
							1.0

Table No. 6.10

Inverse correlation Matrix

contrc	expect	satisf	propen	j.serc	intent	l.m.jo	commit
1.0986	.0931	.2043	.0094	.0638	-.1849	.0721	-.1195
	2.8639	-.3407	.1548	-1.995	-.5441	-.0345	.1025
		1.1477	.0502	-.0018	.1834	.0491	-.0338
			1.1565	-.0334	-.4062	-.1520	.0751
				2.6326	-.0685	-.1262	.1705
					1.4288	-.0220	-.2074
						1.0542	-.0371
							1.0805

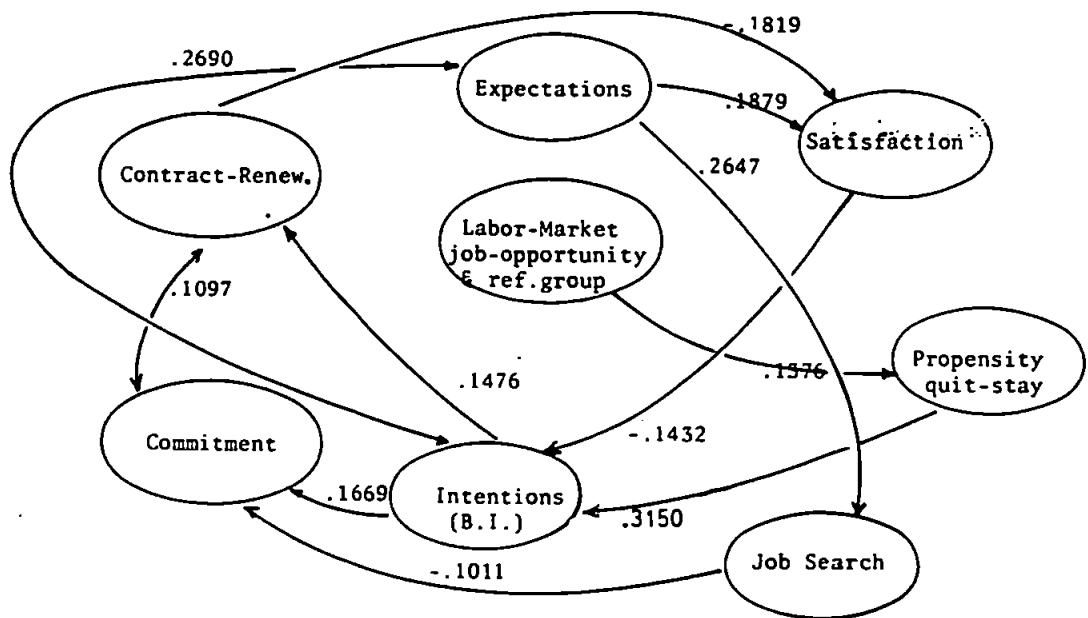
Table No. 6.11

Dependent Corr. of the Highest Order(1'st princ.component)

contrc	expect	satisf	propen	j.serc	intent	l.m.jo	commit
-	-.0525	-.1819	-.0084	-.0375	.1476	-.0670	.1097
	-	.1879	-.0851	.2647	.2690	.0199	-.0583
		-	-.0436	.0010	-.1432	-.0446	-.0304
			-	.0192	.3150	.1376	-.0672
				-	.0353	.0757	-.1011
					-	.0180	.1669
						-	.0348

Fig. No. 6.7

Plotting of 1'st Principal Components' Causal Relations



behaviour. This drawing, if carefully investigated, reveals to us that there are actually three levels of environmental factors. The first two are the situational and organisational levels, dealt with in Chapter Five. The third factor or level is the environmental effects stemming from job opportunities and the economic state of the industry within the society at large. It also includes the general social environment related to our studied employees, as their social reference groups, to which the seafarer affiliates or wants to affiliate and belong to. It is felt that beyond establishing the centrality of this 'environmental' group of variables, we did not analyse these three levels as such, and our emphasis was towards the former two levels, which we felt to be the more immediate environmental entities.

Since we have not gone into the differentiation of the social and economic variables of the central phase, we tend, for the time being, to see these two variables as one factor, although it could be a defensible argument that one should see these as two different, yet complementing environments. These, then, could and should be the topic of yet another study.

It was argued and hypothesised that 'labour market job opportunities and reference groups' affects all other phases and for this we found proof. But this is not all. We also argued that this effect and causal relationship varies and differs from one phase to another. For this purpose we have conducted a set of step-wise regression tests where, in each test, the dependent variable was another principal component factor, and the independent regressors were the original fifteen variables included in this phase of 'labour market job opportunities and reference groups'. The results are presented in Table 6.12.

Table 6.12

REGRESSION TESTS : THE MAIN PRINCIPAL COMPONENTS OF EACH PHASE OF THE COMMITMENT PROCESS, AS THE DEPENDENT VARIABLE, WITH THE ORIGINAL VARIABLES OF 'LABOUR MARKET JOB OPPORTUNITIES AND REFERENCE GROUPS' AS THE INDEPENDENT VARIABLES (REGRESSORS) - THE FIRST THREE VARIABLES OF EACH TEST ARE PRESENTED BELOW

Dependent Principal Component	1st independent variable in the test			2nd independent variable in the test			3rd independent variable in the test		
	No.Var	R <sup>2</sup>	Prob F	No.Var	R <sup>2</sup>	Prob F	No.Var	R <sup>2</sup>	Prob F
Cont. 1	049	.0201	.0141	107	.0339	.0061	110	.0630	.0003
Cont. 2	106	.0142	.0398	110	.0253	.0227	174	.0354	.0138
Cont. 3	110	.0233	.0083	126	.0304	.0104	084	.0363	.0104
Expect. 1	126	.4126	.0001	106	.5109	.0001	107	.5482	.0001
Expect. 2	174	.7848	.0001	002	.8564	.0001	071	.8790	.0001
Expect. 3	001	.0447	.0002	110	.0634	.0001	002	.0729	.0001
Expect. 4	049	.0267	.0046	084	.0313	.0090	030	.0348	.0149
Expect. 5	084	.0150	.0343	030	.0250	.0235	174	.0280	.0381
Expect. 6	107	.0220	.0103	084	.0026	.0211	049	.0293	.0314
Satisf. 1	049	.0296	.0028	106	.0543	.0003	126	.0663	.0002
Satisf. 2	093	.0066	.0162	176	.0123	.1611	106	.0165	.1753
Propensity	174	.0507	.0001	030	.0728	.0001	172	.0934	.0001
Job Search	106	.3857	.0001	126	.5149	.0001	107	.5725	.0001
Intentions	106	.0846	.0001	049	.1182	.0001	107	.1319	.0001
Commitment	126	.0166	.0258	106	.0208	.0343	174	.0237	.0676

This table of regression tests reveals that in most cases the regressors are different. However, as with the first regressors, some do appear more than once. Variable 49 is first in three cases, variable 106 also appears to be the first regressor three times, and variable 126 is first in two cases. Variable No. 49, which defines the nautical merchant officers' social prestige ashore, explains the highest levels of variance of the following components : 'Cont. I', 'Expect. 4' and 'Satisf. I'. As found earlier these three factors define the situational environment, on the job social relations with superiors and peers, and job satisfaction, respectively. Variable 106, which concerns one's evaluation of opportunities for a job in another shipping company, explains the highest level of variance, of 'Cont. 2', 'Job Search' and 'Intentions', or respectively, one's social economic origins, actual job search and the respondent's intentional behaviour. Variable 174, which concerns the respondent's thinking that one's work ashore is more interesting than on board ship, is the first regressor of both 'Expect. 2' (or his negative evaluation of seafarers' life-style) and of one's propensities to remain or quit. Variable 126, which concerns the respondent's evaluation of his fellow seafarers' intentions to quit, explains the highest variance of both 'Expect. I' of one's expectations from job, work and work conditions, and of 'Commitment', positive as well as negative. It is, nevertheless, important to notice another point : that although as expected, different variables with different variance explanatory power affect the various phases, only three are of significant value. The first and second expectation components, and job search, are affected by the labour market job opportunities and reference group variables. We believe that these findings should be expected, if only for the logical relationships which stem from the contents of the variables and the factors, but this group of findings has not yet been mentioned in previous research works. We believe that social - psychological theories might support these findings,

but they are beyond the scope of the present work.

The low explanatory power of the central group of variables in its relationship with actual commitment was expected due to the above mentioned recommendation to use intentional behaviour as the dependent variable. These findings support also the feedback principle which we have tried to point out in this chapter, to-date, only mentioned in this manner, but not empirically studied. There is room, therefore, for further study and analysis of the environmental aspects of the labour market job opportunities and the social reference groups' variables.

In order that we can sustain and elaborate upon our last issue, it has been thought useful to perform the test of canonical correlation between the 'central-reference' variables and all other variables included in the various phases of the commitment process. In this procedure of analysis we study the relationship between two sets of variables. Simple and multiple correlations are special cases of the canonical correlation in which one or both sets contain a single variable. This procedure tests a series of hypotheses that each canonical correlation and all other smaller correlations are zero in the population. This test uses F approximation (Rae 1973, Kahirsagar 1972) that gives better small sample results than  $\chi^2$  approximation. It was developed by Hotteling (1936), and its application is discussed by Cooley and Lohnes (1971), Tatsuoka (1971) and Mardia, Kent and Bibby (1979). This test of linear combination from each set, called a canonical variable, is such that the correlation between the two canonical variables is maximised. The coefficients of the linear combinations are canonical coefficients, or weights and are to be interpreted as the power to explain the variance of the mutual relationships between the two sets. It was chosen for the purpose of sustaining our hypothesis that labour market job

opportunities and social reference groups' variables must be at the centre of our reconstructed model of commitment process, for these have an influence on all phases of the process. It was also chosen for its conclusive power in case the regression tests discussed in Table 6.12 might seem too simplistic for the reader's taste.

As shown in Table 6.13, the results are clear cut.

Table 6.13

CANONICAL CORRELATIONS TEST, AMONG LABOUR MARKET JOB OPPORTUNITIES AND REFERENCE GROUPS' VARIABLES, WITH ALL OTHER VARIABLES WHICH ARE INCLUDED IN THE COMMITMENT PROCESS (S.A.S. ANALYSIS)

	Canonical Correlation	Adjusted Can-Corr	Likelihood Ratio	F Statistics	Prob F	Approx. Standard Error
1)	0.966904	0.9602	0.00148	3.4384	0.0000	0.00377
2)	0.868914	0.8415	0.02281	1.9997	0.0000	0.01419
3)	0.654493	0.5612	0.09310	1.3274	0.0000	0.03311
4)	0.568951	0.4384	0.16287	1.1171	0.0596	0.03917
			Value	F	No. of D.F.	Prob F
Wilk's Lambda			0.00148485	3.438	602	0.0
Pillai's Trace			3.737589	2.159	602	7.40546E-42
Hotelling-Lawley Trace			20.24531	8.076	602	0.0
Roy's Greatest Root			14.36203	85.170	43	0.0

These results allow us to conclude that there are at least three, if not four, significant ways to explain the linear relationship between the two groups of variables, due to three (or four) significant canonical correlations. As we see, all first three yield Prob. of F less than .0001, and even the

fourth, although its Prob. is 0.0596, yields a positive adjusted 'can-corr'. Although our next step in the analysis of the canonical correlations should be based on regression results among the canonical variables, we shall nevertheless choose the tactic of searching for the canonical correlations between the 'central' reference variables and each group of variables of every phase, since we have already chosen this tactic in the previous analysis (See Table No. 6.12).

With this assumption, we obtained the results included in Table No. 6.14

Table 6.14

CANONICAL CORRELATIONS OBTAINED BETWEEN THE 'CENTRAL' REFERENCE VARIABLES AND WITH THE COMMITMENT PROCESS PHASES (S.A.S. ANALYSIS)

PHASE	CANONICAL CORRELATION		PROB	F
1) Contract Renewal	0.443		0.0006	
2) Expectations	1)	0.964077	0.0000	
	2)	0.840581	0.0000	
	3)	0.519410	0.0050	
3) Satisfaction	not significant ( )		-	
4) Propensities	0.405626		0.0010	
5) Job Search	0.79630		0.0000	
6) Intentions	1)	0.572237	0.0000	
	2)	0.279665	0.0356	
7) Commitment	not significant ( )		-	

( ) Same result as obtained in Fig. 6.4 of first principal component relations



As we can see, even a shallow analysis of these results supports our main hypothesis. The reference variables which we have assumed should be related to most of the phases in our commitment process are proven to be so. Although a further detailed study of these results is mandatory in future research, it is quite clear that both the previous and the present analysis match, and yield similar structural results and conclusions.

### 6.3 CONCLUSION

The main conclusions drawn from our data, and the computed model, as shown in the various tables and figures, clearly support the hypothesis that basically, as employees, the merchant marine officers behave as described by the Bluedorn model (1982). However, it was found that unlike the former structured model, we should prefer the cyclical construct where the last phase which was our dependent variable is significantly related to the first phase of the entire process. It is both true for Behavioural Intentions and for Actual Behaviour of commitment. This leads us directly to our third conclusion : that of the natural affinity between the attitudinal phases and the behavioural phases, and through the central group of variables, between the two types of phases. This, from our point of view, is the meaning of the feedback relationships among the phases, a meaning not found in the theories up to now, and not even in the works where it was mentioned and might be expected to appear. These relationships among every second phase, or among every third phase, or fourth, as found in our model, hold as such, only if there is another group of variables objectively evaluated neither as activity nor as attitude. These central variables are seen as criteria through which both activity and attitudes are measured and compared.

These criteria are the Labour Market Job Opportunities and Reference Groups variables. They must, therefore, stand in the centre of the entire process and be related with each and every phase of our studied process. Within this group of variables we encounter some which are connected with expectations, while others affect satisfactions or propensities, job search, intentions or actual behaviour, and the relations are at various levels of causal effect.

The essential conclusion, then, is that which derives from the above, namely, the complementarity between the various theoretical models, the centrality of the reference variables and the intervening effects of organisational

situational environmental variables. These conclusions clearly call for deeper analysis of the process before we endeavour to study their results, as recommended by Hartius et al (1981), Staw (1980), Dalton and others (1981), or even by Bluedorn (1982:a). This calls for a reassessment of the unified theoretical model and its verification in at least some additional works, which shall analyse the data collected from various occupational groups and along the principles of a longitudinal investigation among employees who are not clerks or service people. This notion is strengthened by the very fact that we did not find any direct causal connection between Opportunities and reference group variables with actual commitment behaviour, positive and/or negative in form.

It was proposed that the feedback relationships among the phases should be analysed on more than one level. In the last paragraph we have discussed the first level, that of the relationships of both activity and attitudinal variables with reference variables. The one chain among the activities such as 'contract renewal' leads to attitudinal 'expectations' (which in turn lead to 'satisfaction' - a form of mental activity) through 'propensity' (also a form of attitude) to 'job search' - (an activity, through attitudinal intentions), then to commitment activity or activity of 'contract renewal'. The other form of suggested 'pendulum' relation is that in which each phase is matched by the employee with the central 'reference' variables. Furthermore, we have established connections between the three activity phases, between the three attitudinal phases, between every third, and between every fourth phase. These multiple relations at the end, allow us to assume that the unification of the various theories and models is correct and justified. This is predicated upon the effects of the central group of variables intervening between all these phases. The satisfaction theories in themselves, as discussed in the earlier chapters, only include Intentional

variables, social-economic assets, and expectations put together and measured with opportunities. Both the 'organisational commitment' models, (Alutto, Hrebiniack & Alonso 1973, Hrebiniack and Alutto 1972, Koch and Steers 1978, Porter et al 1974, Marsh and Mannari 1977) which try to link satisfaction to turnover (or negative commitment), and Mobly's model (1977) which adds propensities, job search, and intentions variables to the process to fill in the gap between satisfaction and commitment behaviour, are supported by these findings. We have also found support for the notion that intentions are leading to and can represent actual behaviour, but that when positive, these intentions are connected to the renewal of our process, and when negative then active commitment is subject to intervention (negatively related to) by the first phase.

We therefore believe that although we have dealt with our environmental hypothesis in Chapter Five, the whole structure of the model and the remaining hypotheses are found to be supported. We have pointed out that the central 'measurement' or 'reference' variables act as environmental factors although they were usually studied by psychologists, social-psychologists, and economists separately, and detached from the present analytical process.

Having found support for our proposals, in Chapters Five and Six, we shall now turn to our concluding Chapter and discuss these findings on a more general level. We shall also attempt to draw some operational conclusions from these findings.

## CHAPTER SEVEN

### CONCLUSIONS AND DISCUSSION

#### 7.1. Introduction

In the following chapter we shall summarise our work and its theoretical and empirical development whereupon we shall try to draw some conclusions and make some recommendations for the merchant marine industry, hopefully on a world-wide basis. These two aims of the present chapter will also be followed by some points as to further research deemed necessary.

There is, however, a general issue which concerns the term 'Lazy Monopoly' used in the earlier part of this work. It could be asked how it relates to our findings for there was no hint of deeper investigation into it.

Although we have reached some conclusions about this style of management in the shipping business, about which we shall elaborate later in this study, we have chosen to prefer the differentiation between the three managerial styles of manpower in Israeli shipping because although all three operate differently, they do nonetheless, function along the same general lines which characterise the 'Lazy Monopoly', as discussed in the second chapter. This general term applies to all three styles : to the 'national', the 'risk averse', and to the 'risk prone' shipping companies in Israel. This point is further substantiated from the facts about the numbers of foreign seamen employed by the Israeli shipping companies during the last ten years, as presented in the appendix. Another example which supports this point is also included in the Israeli Shipping Law - (Seamen) - 1973. This law demands that : 'The owner of a vessel shall employ a majority of Israeli competent seamen, as much as possible'. This is no mistake in translation. The law does contradict itself by these two measures ('majority' and 'as possible'), and enables the different shipping companies to employ foreign seamen and officers as some companies do (mostly those which belong to the risk prone

category), and make the most of this contradiction. However, the other two categories - the 'national' and 'risk averse' - reduce the employment of foreign officers to a justifiable minimum.

The 'risk prone' group is therefore able to refrain from the elementary managerial need to keep a reasonable number of seamen (Israeli seamen) as regular employees. Rather, the use of foreigners also enables these shipping companies to exclude themselves from the need to take part in the instruction and preparation of sea-cadets, as the other companies do. These risk prone companies are not bound to keep any 'manpower reservoirs' and are, therefore, able to buy and sell ships whenever the market conditions allow it without any 'manpower' consideration. However, even the other two types of shipping companies behave toward their human assets as the 'Lazy Monopolist', albeit on different grounds. An example of this 'laziness' can be culled from the following facts. During the last two or three years the Israeli shipping industry has been severely damaged and reduced by the international shipping crisis. It was proposed by the Ministry of Transport, Shipping and Ports Administration that this must be the time for training new seamen in order to prepare them for the period when the crisis is over, and to prepare new officers for the operation of the new ships. Yet these 'national' and 'risk averse' companies, being equal financial supporters of the 'instruction authority', (the other half is financed by the government), do have an impact upon the annual registration of new cadets recently to the lowest possible imaginable level of less than 20 cadets in 1985. And this, when it is well known that even during the present period there is some 10% of turnover or quitting rate annually, among the 1000 active officers. This means that there is a deliberate attempt to reduce the number of Israeli officers in the industry, and the formal reason given is that they cost twice as much as the foreign officers. There is no questioning this fact,

but neither do we think it is different than the 'lazy monopoly' style of thinking. The 20 cadets are 'only those' graduating from nautical high-schools, for there is a "commitment toward them". This is why Technician Engineers fully fledged are turned down if applying for a chance to enter the cadets' courses.

## 7.2 SUMMARY OF FINDINGS AND RESEARCH WORK

A large number of scientific research works have been published in recent years on the subjects of commitment and turnover. Due to the fact that the forefathers of both scientific streams were the same ones, we have tried to unify these two polar constructs into one. We have claimed that by compressing both concepts into one, and by the use of a combined operational variable, the results can show a better, more complete and inclusive picture of the process which the employee undertakes from the moment he decides to board a ship and serve as a merchant marine officer.

Following this line of reasoning we have defined both positive commitment and quitting as two identical but oppositely directed modes of behaviour influenced by, and derived from, a process theoretically formulated by Blueborn (1982) as a unification of several theoretical phases into one inclusive model. The original purpose of this study did not include anything more than an attempt to find the principal turnover and commitment behavioural antecedents amongst merchant marine officers and their relative power of influence as revealed by the diminishing order of the dependent variables whose variance they explain. The theoretical background of the original work was based on Pettman's work (1973) which reviewed turnover research based on Simon and March. The present work was based upon data gathered during 1975/6, when we still did not have any knowledge of the future analytical development described above. However, having reviewed

the literature of that period, we have incorporated most of the theoretical and operational variables then included in the various theories unified at the turn of the decade. We have also sought to find out what should be the actual behaviour of the responding officers after five years, for which purpose it was meant to be a longitudinal study. A change of strategy was inserted into the formulisation and verification of the theoretical model as described in the previous chapters.

Due to the paucity of computer services imposed on the study, we have also acknowledged the need to plan our research work where the actual behaviour will not be the sole dependent variable. Rather, we believe that intentional behaviour could serve this aim just as well.

The problem which stimulated our work was a derivation of seeking a study to obtain a forecast of supply and demand of merchant marine officers which brought us to the realisation that the two major factors to be considered were officers' turnover behaviour, on the one hand, and on the other, their rate of annual sea-time activity. These represent operationally the definition of commitment. Our knowledge of these two factors at that time was very poor, and we therefore began the analysis by studying the literature known at that time in order to formulate our original hypotheses. It was quickly decided that the research tool should seek information on both these factors which were defined by one operational variable for actual behaviour, and the same for the intentional behaviour.

Although a consistent but weak relationship had been reported between satisfaction and other variables with turnover, a stronger relationship had also been reported between various antecedents of turnover and intent to remain or leave the organisation (See Porter and Steers, 1973; Beer and Gupta, 1978; Kraut, 1975; Mobley, Horner and Hollingsworth, 1978; Waters



Roach and Waters, 1976). These relationships (Waters and Roach, 1979) tended to be of greater magnitude (Kraut, 1975; Mobley et al, 1978). It was also recommended that we should use intentions as the indicating dependent variable. We have, therefore, phrased the actual commitment behavioural variable as the amount of sea-time served by the officers, both during the year of the research field-work when gathering the data (in 1975/6) and five years later in 1982. In so doing we could also find the rate of quitting and of commitment during this period of time. The intention to remain or leave variable, was also phrased in such a way that it would include both forms of intention, to quit and to stay (var. No. 128).

Based upon these assumptions we have later rephrased and reformed our model according to the unified model developed by Bluedorn (1982). But we have added to it two theoretical considerations. The first was the Mobley model which stresses the theoretical perspective of feedback between factors which take part in the studied process. The second was that we expected to find that opportunity and labour market variables should have a much broader and meaningful influence upon the various steps and phases of the process studied. The same was hypothesised about the effects of structural variables of the organisational and situational environment. We therefore expected that :

- (a) the basic unified model shall also be applicable to, and verified in, the case of merchant marine officers
- (b) feed-back relationships shall be found between the various stages of the process in addition to the direct relationships expected by the original process (as in (a) above)
- (c) the model should be arranged in a cyclical form, where the process of the employee becoming involved and committed (positively or negatively) is not the last event. The relationship between employer and employee, especially in the maritime officers' population, begins with every new

voyage, and therefore commitment (actual or intentional) is but one phase in a cyclical process and not an aim in itself.

- (d) It was anticipated that special importance should be attached to the influence of two intervening variables: job situation and occupational organisational environment. This hope stemmed from the expectation of a cyclical structure in our model, where we hypothesised direct relationships between positive intentional commitment and renewal of contract relations between officers and ship owner, and when negative actual commitment behaviour is found, it should be affected by the two intervening variables mentioned above.
- (e) Intention to remain or quit was expected to be directly related to actual commitment behaviour (mostly when the intention is negative) and could, therefore, demonstrate, illustrate and stand for actual behaviour.
- (f) Special consideration be proposed regarding the influence and effect of reference information such as labour market job opportunities and social reference groups. These variables should be related to all the phases of the process, and therefore be situated in the centre of the structural model. The relationships of these with the other variables, (and among the other variables through these central ones as intervening variables) comprise the notion of feedback among the various phases which was mentioned in previous scientific works. These have, however, not yet been studied in this specific context.

Our use of the highest order dependent correlation coefficients (Pollatchek, 1974) indicated that our hypotheses concerning the structure of the model were sustained. The relations revealed in our computed correlations matrix of the highest order had shown that :

- (a) although unexpected and contrary to Bluedorn (1982), there are no direct relationships between the labour market and reference group variables with the actual commitment behaviour. Rather the direct relationships are with intentions, on the one hand (which in turn are related to commitment), and with our hypothesised intervening variables of job situation and organisational environment group of variables on the other hand. These were operationalised by defining them as one's rank and ship's department and by one's employment in a particular shipping company.
- (b) Shipping companies also act as an intervening variable, especially when divided into three types of manpower management and policy:- that of the national type; that of the risk averse; and that of the risk prone type (Moreby 1982).

These last two findings discussed in Chapter Five shed light on two main problems which might act as main issues and research problems in the future :

- (a) To distinguish between those who stay because of positive commitment and those who stay (although they wish to leave) because of non-existent labour market opportunities. The latter remain and are the so-called 'dissatisfied-stayers'.
- (b) To elaborate and define the manpower policy and management procedures of the various types of shipping companies.

Wanous (1979:658) contends that organisational factors rather than personal variables have a significant influence and power of explanation of both voluntary and involuntary quitting behaviour. Schwartz (1982), who brings

in the complementary aim into our future study, says that "situational variables seem to have more effect on the attitudes of low-job-involved persons than on highly-job-involved persons", which fits well with (b) above mentioned. Rabinowitz and Hall (1977 : 285) claim that this "was a contrary (finding) conclusion to expectations". The attitudes scales operationalised in our study were also recommended and used by Warr, Cook and Wall (1979 : 133) who claim that "work involvement is viewed as the degree to which a person wants to be engaged in work". This fits adequately with our notion that two components are involved in the process of employee's commitment and turnover, based on March and Simon (1958). These two are summarised by Koch and Rohdes (1981) as (a) constraints on one's ability to leave the organisation, and (b) the perceived desirability of leaving. We, of course, add "of staying". Basically, this notion is constructed on the grounds of the human exchange behaviour (between employee and his employer), as explained by Angel and Perry (1981). Koch and Rohdes (1981) have also found that there is a significant relationship between the job level, or the rank, and the will to move, leave or stay, as we have found and reported in Chapter Five. In this structural relationship, one must theoretically include the 'alternatives' factor, which is also sociologically embedded in the paradigm of the structural-functional approach. However important, we have found that scientists tend to neglect this component when studying commitment and turnover (See Koch and Rohdes 1981 : 147). It was found in our work that higher importance should be attached to labour market opportunities and reference groups in the model. This is sustained by the claim that one's path to commitment is not in a straight line of events. Rather, like the "quantum" theory in physics, the process is built or comprised of distinctive steps which also include the feedback element (See Staw and Ross 1978). Why does the functional sociological theory need to have the "alternative opportunity" construct?

Among other reasons, it is needed to allow for the claim that social behaviour contributes functionally (or dysfunctionally) to the system's needs in case the chosen activity or behaviour is socially thought to contribute less than expected. In the exchange approach 'alternatives' and opportunities are those which enable us to define the entrepreneur who tries to find the best exchange configuration where he would invest the least amount of his assets for the maximum revenue expected. Following this vein of thought, one can distinguish between the committed and the dissatisfied stayer who probably either needs or does not need the alternative opportunity. However, it is at the same time suspected that we could also differentiate between the three shipping companies' types by similar criteria. The individual officer (or employee) who needs the alternative (be it rank, shipping company, or work ashore), may be in search of it, or he may have already found it but not yet attained it. Whereas in the functional sociological approach the alternative should be contributing to the survival of the social entity, here it is thought to bring the social body to a more favourable situation of maximisation of rewards. The former approach sees alternatives as a reference for an evaluation of the present situation while the latter sees it as a possible and/or probable aim to be attained. Since it is considered by Simon and March that turnover or (as we define it) commitment, is a result of exchange expectancies (met, or unmet), we suspect that it could be the theoretical basis for the distinction between the two kinds of stayers - the committed and the dissatisfied. This fits quite well with the notion of the exploitive and contemporary relationships developed between the merchant marine officer and his occupational and job situational environmental components. The importance of job situation is stressed by Schein (1971) who claims that the individual does not actually become a member of the organisation unless he infiltrates it and gets along with the job situation. When he

is committed, then he is supposed to be committed first of all to his job (as the tangential touching point with the organisation). The same occurs when he is trying to, or actually, quits. He leaves the job and the job situation which is determined by the organisational environment and reality. This notion was temporarily sustained by the factor analyses conducted (see Table in the Appendix), where the results obtained were that : the first factor included attitudinal variables towards the job, situation and occupational environment : the second factor included variables which define the social - economic background of the employee; and the third factor included variables which define occupational and job situation (again, although the results seem extraordinary, due to limits imposed on the study, the factor analysis included only variables No. 001 to No. 140, and therefore this result is considered to be only tentative). Since research to date has only mentioned the dissatisfied stayer theoretically, while no operational work on this topic has yet been found, we hope to arrive at a better understanding of these kinds of employees in the future work planned. It seems that these are probably the majority of employees (although no conclusive indication to this can be derived from our work).

Another issue which this research raises is related to our factor analysis test about which only hints were given above, as seen in the Appendix when dividing our variables<sup>(x)</sup> into three factors (during an early stage of the study), the results obtained showed that on the whole we have explained 100% of the variance. Although these results have not been discussed until now, they are nevertheless important simply because factor one does explain 77% of the total variance. In simple terms this means that the attitudinal variables are very important in the explanation of our dependent variable and therefore future studies should deepen the analysis of this finding.

(x) By S.P.S.S. routines, having treated the first 140 variables of our data, the computer command was to operate a factor analysis by dividing the variables into three factors.

This suggestion is in the light of the unfinished SSA I test (reported earlier in Chapter Five). It calls perhaps for a more meticulous analysis of the evaluative and attitudinal variables. The tentative conclusion from these results suggests that higher or lower involvement is influenced very much by one's attitudes and evaluations more than by the objective reality of hard facts. This, however, is not new to those who study behaviour. But the implications call for increased attention to the information evaluated by the worker, and his attitudes, rather than by changing the situation and living conditions or one's work load and the division of labour as recommended by several shipping organisation researchers in Northern European maritime countries. This conclusion does not mean that there should be lessening of concern for findings which indicate that substantial importance must be attached to the reference variables such as labour market job opportunities and social reference groups such as family or more secondary groups. It also does not suggest that a lack of consideration should be allowed toward matters included in the organisational and situational environmental factors, which do act as intervening variables between antecedents to intentional and actual behavioural dependent variables.

### 7.3 DISCUSSION OF FINDINGS AND THE CONTRIBUTION TO OUR UNDERSTANDING OF COMMITMENT AND MANPOWER POLICIES IN SHIPPING COMPANIES

For the purpose of the present discussion we shall limit our scope to just a few research works upon which we have drawn, although our main theoretical reference was the Bluedorn, unified model (1982).

Although our aim is not in the realm of 'Philosophy of Science', we cannot neglect the question as to why Bluedorn had searched for a way to combine several theoretical approaches under one roof. It seems that the answer lies in two main works published in 1979. One has been published by Miller, Káterberg and Hulin (1979), and the other written by Hom, Katerberg and Hulin (1979).

When "evaluating the Mobley, Horner and Hollingsworth model", Miller et al, (1979), say that the data reported by Mobley and his associates revealed some limitations that may underestimate model validity, (p.509). How do they understand that model? According to Miller et al. (1979) "Mobley proposed that several intermediary steps take place between the experience of job dissatisfaction and a decision to quit. Dissatisfaction was thought to stimulate the idee of quitting. These thoughts lead to an evaluation of the utility of search for alternative work, then to search behaviour, to an evaluation of work alternatives, to intention to quit and finally to the act of resignation. Conditional causality, rather than direct causality is implicit in the model. This means that job dissatisfaction does not lead to turnover, but does so conditionally on favourable search utility, successful search, attractive work alternatives, and action toward resignation". They also add "feedback loops were acknowledged but not specified". Further, they argue : "measures were collected on perceptual components leading to intention to withdraw and actual withdrawal, whereas search and actual withdrawal of uncovered alternatives were ignored". (p.510).



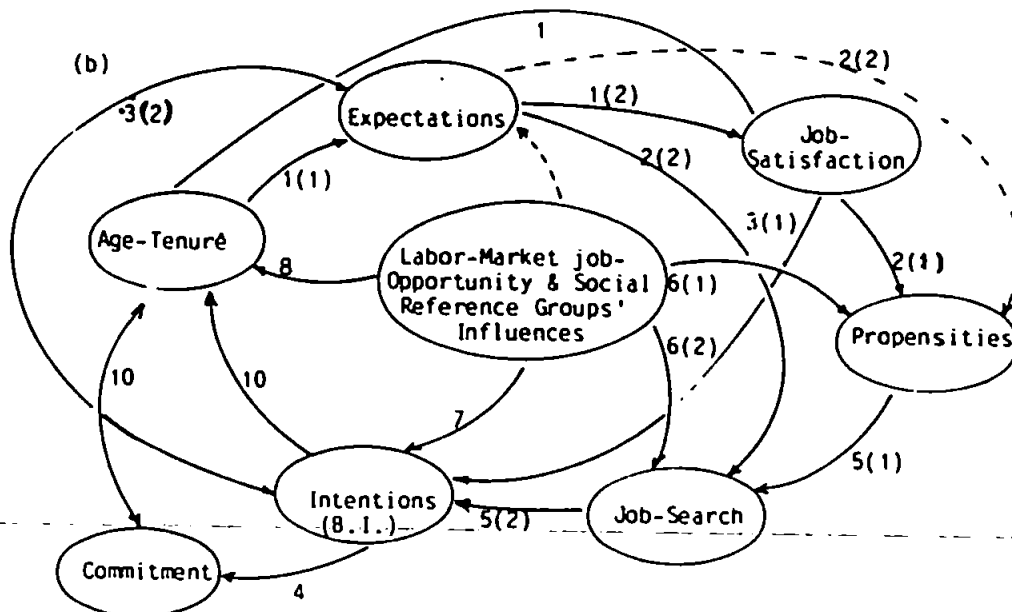
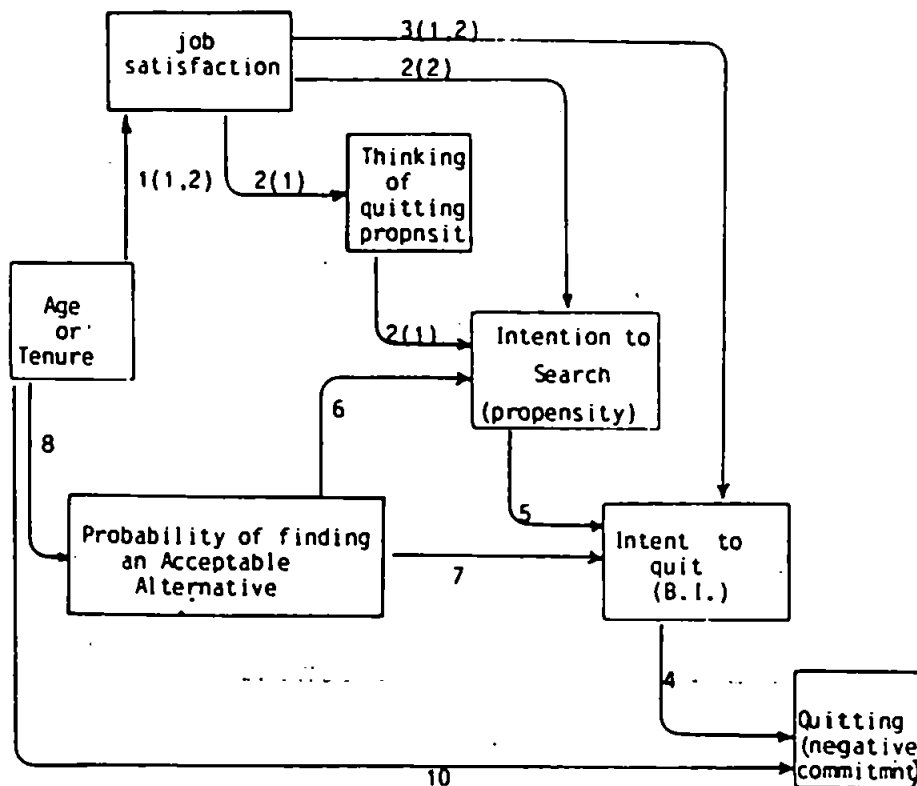
Hence, in Mobley's reduced model (1978), where job satisfaction was hypothesised to affect directly "thinking of quitting, intentions to search, and intention to quit, thinking of quitting should directly affect intention to search, and intention to search should affect intention to quit. Only intention to quit was proposed to affect turnover directly". As for alternatives, they say that the probability of finding an acceptable alternative job should affect "Intentions to search and to quit, and a standardised composite of age and tenure should affect directly the probability of finding an acceptable alternative and job satisfaction". Let it be said that although Mobley himself had not received full proof of his hypotheses, our model suggests that all these are both supported and sustained. What are the reasons given by Miller and his associates to the lack of support to Mobley's proposals? Three limitations were found : "First, the low base rate of turnover (10%) restricts variance in the criterion and the magnitude of relations with predictors"; secondly, as they say, "Mobley et al (1978) relied in interpreting significance and magnitude of standardised regression coefficients to evaluate model validity. Regression coefficients are notoriously unstable when predictors are not independent and when samples are small; and thirdly, the pattern of results, from their regression analysis "were not entirely consistent with the reduced seven-construct model. Age/tenure appeared to have direct relationships with intention to search and to quit rather than indirect relationships as hypothesised. Probability of finding an acceptable alternative was related to thinking of quitting, but not intention to search. Finally, job satisfaction failed to contribute significantly to intention to quit". These inconsistencies between model and data "may be due to differential measure reliability sampling failures in path analytic techniques and/or model inconsistencies. Whatever the reason... there is a clear need for further validation work". Having obtained support for practically all of

the hypotheses made by Mobley using a different style of analytic procedure that overcomes these three limitations, one point remains to be discussed. This is the structure of the original model we had used, meaning the cyclical form where the dependent variable is related to "age/tenure" variables, seen by us as "situational factors (as also seen by Katz, 1978). Another matter is the feedback loops, which Miller et al say "were acknowledged but not specified". We support what Mobley (1978) said about alternatives. And as Miller et al (1979 : 510) argue : "In addition, the probability of finding an acceptable alternative job should affect intentions to search and quit ..."; this has also been sustained by the model in the present work. But we believe that this was misinterpreted by Miller et al. Rereading Mobley (1977) and summarising his model confirms our belief for it is specified quite clearly (p.238) that "If the costs of quitting are high and/or the expected utility of search is low, the individual may reevaluate the existing job (resulting in a change in job satisfaction), reduce thinking of quitting and/or engage in other forms of withdrawal behaviour". What Mobley correctly points out is that research is still needed on the determinants "of alternative forms of withdrawal ... and on how the expression of withdrawal behaviour or changes as a function of time and of changes in, or calculation of, environment". We believe that the present research has contributed to at least a partial answer to these queries. More than this, it seems that our model does not differ very much from Mobley's model (1978) as also outlined by Miller et al (1979). The only difference is that what Mobley calls "Thinking of quitting", we call "propensities", which implicitly include Mobley's (1978) "intention to search". Thus, if both "thinking of quitting" and "intention to search" are practically one factor for Mobley (1978) then both should be affected by "probability of finding an acceptable alternative", which we have termed "labour market job opportunities and reference groups" variables. In this case, instead of Mobley's original

model virtually unchanged we obtain our model, as seen in the "principal component dependent higher order correlation matrix" (fig. 7.1 a,b). This assumes that quitting is not only the final and dependent variable, but one alternative in the realm of 'commitment', that affect "age/tenure", as we have proposed.

FIG. No. 7.1 Transformation of Mobley's model (1978)-(a) into our Cyclic model (b) -(by preserving causality - line's numbers)

(a)



As the reader can see, in Fig. 7.1 which includes arrow No. 10 (added to our model), we are now able to rearrange it into the structure as in Fig. 7.1b. However, arrow No. 1 is broken into two parts : the first of which starts in the situational, organisational environmental and personal assets phase, to 'expectations', which are included in all satisfaction theories, without which, satisfaction fades (See Steers and Porter, 1979 : 21; Korman 1970, 1971; Mitchell 1974; Oliver 1977; Schmitt et al, 1978; Steers and Rhodes 1978): and its second part, from expectations to 'satisfaction'. Here too, no relationship was expected to be found with 'alternatives - or, references', just as we observed in our "principal components" results (Fig. 6.6). We must also break the relations between propensities in our model (which include both 'thinking of quitting' and 'intention to search' as in Mobley's model) into two components, and then add job search (actual) behaviour, between 'propensities' and 'intentions' to quit, which (drawing on Fishbein) is the 'B.I. or "intentions". Another different element is that our model proposes the effect of 'propensities' on the 'age/tenure' factor, contrary to Mobley's suggestion. It is justified by the fact that situational factors within the organisation may be an intervening variable which affects one's willingness and actual undertaking of the job, or one's contract renewal. The organisational and situational environmental variables are in our understanding, affected by labour market job opportunities (for the individual employee) and not vice versa.

From the Mobley model (1978) as in Miller et al (1979), we now turn to Hom, Katerberg and Hulin (1979). This work is complementary to the former. Here, three theories are examined and tested in order to find which is more efficient in turnover predictions. These three - the Fishbein behavioural intention model, the job satisfaction and Porter's organisational commitment model (which combines elements both from the Fishbein and job satisfaction

models) - are evaluated under equal conditions. Formulating the Fishbein model algebraically, it becomes :

$$B = F (BI)$$

$$\text{where: } BI = w_1 Aact + w_2 SN + e$$

B, behaviour, is a function of (BI), behavioural intention, and BI, equals two theoretical components. These are (Aact), meaning attitude toward performing the behaviour, and (SN), which is a subjective norm regarding the behaviour. It is also claimed that  $w_1$  and  $w_2$  are theoretical weights which usually are the empirical estimates using multiple regression coefficients (Hom et al 1979 : 281).

Analysing this theory has been found that to include the following principles;

- a) the attitudinal component (Aact) may show stronger relations with the behaviour than does the attitude toward the object; "the target toward which the action is directed" (op. cit. 1979 : 281). The social component (SN), is an individual's perception of whether or not "most people who are important to him or her, think he or she should perform the behaviour. This element, then, is a "function of the person's beliefs about what specific important matters others think should be done (normative beliefs or NBs); weighted by the motivation to comply with these others (MCs). This function may be algebraically represented as :

$$SN = \sum NBMC" \text{ (op. cit. 1979:281)}$$

The element, according to Jaccard and Davidson (1975) and Pomazal and Jaccard (1976), enhances the predictive power of Fishbein's model.

(b) The (BI) is considered by Fishbein to act as the intervening variable between the attitudinal and normative predictors of overt behaviour (Fishbein and Ajzen, 1975).

(c) Fishbein hypothesised that variables external to his model can influence (BI) only indirectly. That is, "if extraneous variables are related to BI, it is because of their effects on either of the two major factors of his model (Aact, or SN).

It is clear that our model includes 'reference group' in its central component, drawing on Fishbein's construct of "important others", or the NB - and one's motivation to comply (MCs).

Having tested the three theoretical approaches, the result is, as Nom et al say (1979 : 289) : "The superiority of the Fishbein model predicting specific, specified behaviours is not at question".

It seems, then, that the fishbein model answers Mobley's concluding questions (1977 : 239) in his "short notes" paper, where he asks the following : "Do individuals evaluate the expected utility of search?" or, "What are the consequences and determinants of behaviour in the face of an unsuccessful search? It also seems that the model suggested in the present work, ultimately discusses those who are the dissatisfied stayers, and that Fishbein's main hypotheses were sustained in the present work.

What then, is missing in Mobley's and Fishbein's theories and models, that caused Bluedorn to :

- a) add the commitment element to his unified turnover model?
- b) neglect the feedback notion, and the place of 'labour market job opportunities, which should be placed in the centre of the constructed model?

The main reason why Bluedorn included the commitment theory in his unified model is the problem of met, or unmet, expectations, which is the seed for either positive or negative commitment behaviour. Porter and Steers (1973 : 152) after summarising various theories and research works such as Brayfield and Crockett (1955), Herzberg et al (1957), and the work of Vroom (1964) and Schuh's (1967), show that they are particularly concerned with potential role that "met expectations" may have on withdrawal behaviour. Thus, their first hypothesis is : "When an individual's expectations - whatever they are - are not substantially met, his propensity to withdraw would increase" (1973 : 152). It is also assumed that the opposite is just as true - when expectations are met, the result is higher commitment. Porter and Steers (1973 : 169) assert that "... To a large extent there is an underlying assumption, often inferred but sometimes stated that the reduction of all turnover is a desirable goal. Such an assumption may be questioned on several grounds. First, from the individual's point of view .... Second, from the organisational standpoint ...". Mobley (1982 : 112) observes that : "For years, various authors have noted the need to guard against viewing turnover as a necessarily negative phenomenon (Gaudet 1960., Gellerman 1974). More recently, turnover research has been criticised for focusing disproportionately on antecedents of turnover to the neglect of consequences (Dalton and Tudor 1979, Stow and Oldham 1978)". More specifically, "Intention to quit cannot always predict quitting. However, assuming that this employee sustains an intention to quit, there are some unintended consequences that can be expected" (Bowen, 1982 : 207). Bowen (1982 : 209) also adds that the model of Fishbein, "offers little support for predicting being fired from an intention to quit. The communality between behaviours" the model requires, "for predicting the one from an intention to do the other is largely missing". When Hom et al. conclude their work (1979 : 289), they say : "... The superiority of the Fishbein

model for predicting specific specified behaviours, is not in question.

A more general question is the utility of general job attitudes (satisfaction with different aspects of one's job) in predicting a number of different job behaviours... such knowledge is not available from the more specific Fishbein attitude/behaviour model". Kanunge (1979 : 136) concludes his work arguing that : "attempts should also be made to relate the cognitive states of alienation and involvement to the various affective states that accompany them and their behavioural consequences". Price (1977), dedicated the last chapters of his work to the organisational and the individual consequences of turnover.

The result of this line of reasoning is to neglect attempts to connect the commitment, as the dependent variable, to the renewal of the contract relations between employee and his employer. Rather, what interests these authors are the consequences of the commitment process - mainly for the benefit of the management and organisation. This, perhaps, is the main reason why Bluedorn's model has been so constructed - as a one directional process rather than a cyclical one.

All three unified theoretical streams refer to the importance of "opportunities". It seems that Price's (1977 : 83) influence in this matter is pivotal. Since Bluedorn's model stems originally from his supervisor's work, it is believed that he has been captured by both the first model he had analysed and by the structure of the work (Price, 1977), where its last chapters are dedicated to the individual and organisational consequences of negative commitment (turnover). Price himself wrote : "Opportunity is a characteristic of organisational environment, and as such, is exterior to the organisation. To explain variation in organisational turnover, one must examine characteristics of the organisation and its environment" (1977 : 83). Although as described in the work, (Bluedorn 1982) this variable should have



an affective capacity independent of the various phases of the commitment process, it seems that the unified model fails to arrive at a position where it influences all phases. Rather, it is placed as one of the independent variables assumed to affect only the job satisfaction and turnover. This decision is quite strange in the light of the fact that Mobley's model, included in the unified model, points out quite clearly that the "probability of finding an acceptable alternative" affects "intention to search", and "intention to quit", but not "quit behaviour" itself. The findings of the present research work support the Mobley model more than that of Bluedorn in this particular regard.

Consequently, although influencing the satisfaction of seafarers is an important operational conclusion from the present work, it should also be concluded with equal importance that seafarers' perception of labour market job opportunities and reference group is the complementary target for reducing quitting and turnover, and increasing commitment level.

This, however, is not the case in the European maritime countries. It is useful here to refer to a paper concerning the British maritime industry. In a sense it is a common feature of the modern maritime industry, prior to the present economic state of international shipping. The reduced numbers of seamen (ratings more than officers), posed a "constant problem" as in McConville (1979 : 44). According to his description, both the "competitive-ness of world shipping", and "the sophisticated technology and massive capital investment make it imperative that the industry recruit and retain a stable and highly skilled labour force". Two kinds of labour turnover exist. The first is that shipping industry loses men to other industries, and they must be replaced by recruitment or by attracting seamen back to "seagoing employment". The second kind refers to "a very considerable amount

of job changing within the industry". The result of this labour turnover and other problems recognised by "Sealife" programme was to "examine ways in which life at sea in the U.K. shipping industry "could be made more attractive to the U.K. Seafarers from which the effective use of manpower can be developed". Four main conclusions were reached. These were (1977 - Sealife) :

"At industry level there is a need to move to more flexible recruitment and selection policies, to create seafarers, and to reduce current differences of opportunity and status by building bridges between the different seafaring groups.

The principal of continuity on the ship is fundamental to improving working and community life aboard. In relation to many shore organisations there is a need to let the ship have more authority to help those on board assume and exercise it and to talk "across" the ship rather than down to it".

However true and justified these principles they will only be a half or less of the necessary solution. McConwille (1979 : 45) says : "... It would appear that seagoing personnel are increasingly measuring their pay and working conditions against those of comparable shore workers rather than those within their own industry ... to reduce the differences of opportunity and status between sea and non-maritime shore careers" (1979 : 45). Among other problems and solutions, it seems quite a justified recommendation, at least according to the results obtained in the present work. The last recommendation is less appropriate to tackle but the former ones are more to the point. This is in line with attitudes of the industry that behave like a 'lazy monopoly' emphasising the inner problems it is faced with, and not the more important ones of manipulation on the 'opportunities and references'.

W.F. Hunt, Head of Fleet Personnel Division, P. & O., U.K., on addressing "Maritime Manpower in the U.K", (1976) pointing out the main problems of turnover and scant numbers of new-comers into the industry, described the

approach for solving the manning problems afloat :

"... Improvements in pay and conditions of employment will no doubt contribute to this (solution) ... I personally believe these schemes will have, if they are adopted, only minimal effect. I believe there is much to be done in improving the relationships between those who work afloat and those who work ashore in the industry". (p.34-35).

But, these are "short or medium term steps". What is suggested, then, is "better quality of working life", on board ship (better QWL). But this is not enough, and he adds : "... I believe that trends point to the requirement for change in shipboard work organisation and structure, planned in order to provide a more satisfactory working environment to present day and future sea-staff. Changes in society ashore must be reflected in the small societies that we have on board ships. Senior officers have expectations of the real managerial decisions that are taken ashore". It seems that although they acknowledge comparison between shore and ship work, recommended suggestions are not in line with our present results. All the answers conceived are "within the shipping industry". None of the suggestions are in the vein of how to diminish and weaken the pooling power of shore employment and stressing the "pushing power of working afloat" (Manheim and Rosenstein, 1975).

#### 7.4 SUGGESTIONS AND RECOMMENDATIONS : IMPLEMENTATION OF THE RESULTS

Before we begin forming any set of recommendations based on the results obtained in the present work, a closer reading of the Rochdale Report (1970: 234-239) is mandatory. When studying that report, it turns out that many of its paragraphs remain valid. Summing up we could say that :-

- (a) Better selection tools are needed both for the introduction of potentially committed seafarers and the rejection of the potentiality quitting people.
- (b) Better social and living conditions are required in order to lessen the differences between officers and ratings.
- (c) Living accommodation and safety conditions are important to seafarers' satisfaction. Unions should be consulted in this matter.
- (d) Techniques and tools to diminish and decrease boredom on board the ships are needed.
- (e) Research on work satisfaction and evaluation of information is thought mandatory among seafarers.
- (f) Easier transfer from one company to another for seafarers, and from one line or ship to another within one company should be possible. This is to be coupled with the element of merit and seniority.
- (g) Better leave conditions are called for, based on the principle that if one is on leave, one should not be bothered with emergency calls.
- (h) Better feedback and reward systems and improved contacts between sea and shore staff are needed.
- (i) Efforts to "allay the anxiety" of "redundancy". There is a clear need

for the flow of information concerning plans and purchase intentions of new ships to be published openly, announced and circulated for better knowledge of manpower demands by ship owners.

- (j) More flexible gratuity systems and pension schemes "could do much to control wastage".
- (k) Steps are needed to decrease the fear that too long sea-service periods shall not disturb seafarers from smooth integration in shore-based labour, and life, when they will have quitted.
- (l) Education and instruction for seafarers while on sea-service to facilitate a second career ashore.

All the above cited remarks could well be derived from the results and findings of the present work. However, there is one point of reflection and contemplation. One finds no recommendation for a scale or order of priorities here. All steps are equally important. Since the implementation of these suggestions costs money, there cannot be any expenditure without any well defined order of priorities. This demand for a clear manpower policy must be based upon a clear general approach toward the human asset of the shipping business if it is to fit in with the general managerial style of each. In the present study we have encountered three different types of shipping companies operating under similar assumptions which we have called "Lazy Monopoly". Although each has its unique methods and systems of operation and manpower handling, nonetheless, there are common steps to be made by all alike, for in Israel the unions are "playing the closed shop" and the contracts signed with the various owners are the same. Over and above the differences among the shipping companies, the problem facing them all is how to cause higher positive commitment and reduce negative commitment (turnover), at the same time. As this problem

is known to exist in other modernised shipping countries the answer should reflect an integrated effort from a multiple problem-solving perspective.

One cannot assume that a definition of turnover will enable us to take measures for its successful reduction, for it has been found that the causes of quitting behaviour are perhaps not necessarily the same as those that cause commitment. We have found that rank and personal characteristics, and even one's attitudes toward job and occupation, are not the only group of causes here. Rather, labour market job opportunities and reference groups also affect this process just the same. If we take the finding as an indicator, then our search for problem solving not only includes hidden assumptions which lie behind the Rochdale suggestions, but it also suggests that the solutions may lie in some of our main results. We should, accordingly, be concerned with :-

- (a) Both aspects or sides of commitment (involvement and quitting) intentional and actual behaviour
- (b) Organisational institutional and situational environmental variables.
- (c) Reference variables such as labour market job opportunities and primary as well as secondary social reference groups.
- (d) Emphasis must be directed toward the manipulation of attitudes, normative and evaluative particularistic variables.
- (e) If the industry wants to solve its problems by increasing commitment and weakening turnover rates, it should cease to behave along the 'Lazy Monopoly' managerial principles and style, and choose another more sensitised form of manpower policy and management of human assets.

To date there is a very tough discussion among scientists as well as among ship owners in most of the maritime countries about the problem of reducing ship crews to the minimum number possible. The assumption behind this is that by so doing the bargaining position of the owners would be more favourable when competing with fleets operating with low manpower costs and payments. In reality, many turn to solutions such as 'integrated crew tasks', 'continuity of service on fixed ships and crews' and the like. But the actual step has not yet been taken toward a decisive act, and this is because of the expected conflicts with seafarers' unions, which are opposed to it. These unions usually oppose this trend because they are afraid of reducing the numbers of jobs on board the ships, and because of the redundancy that derives from it. It also leads to a diminution of the unions' political and electoral powers. All bodies involved understand that this is rather a vicious circle. When people leave the industry, or are dissatisfied and intend to leave seafaring at the first opportunity possible, others withdraw with them, but they are not easily replaced and those who do come to the shipping occupation are of a lower calibre than those leaving. New recruits can hardly operate advanced technology and modern ships and the result is higher turnover, and both lower commitment and lower rates of qualified new entrants. The immediate result is decay and the opposite of 'sustained growth' of the industry leading to what is usually called 'break-down of modernisation'. It has frequently been written and alleged that shipowners wish to reduce crews to the minimum numbers up to 6 men per ship and even less. It is technologically possible but, as suggested earlier, it is not yet practical because it entails high investments for highly sophisticated technology, for which some say it is too soon to invest. It is too soon because it is not yet worthwhile and economically rewarding (Moreby 1984 : 14-17, Sagen 1984 : 9-11). However, if it were remembered that within a few years the scarcity of qualified

manpower will force the shipowners to invest in that highly advanced technology and in training highly qualified crews, it would not really matter whether these owners act like 'lazy monopolists' or not. They would not be allowed to act this way because the size of the investments will force them to be closely concerned. With such a 'scenario' all mentioned recommendations would be sought for implementation, but only as part of the measures taken.

What we are trying here to imply is that in the near future, action should be taken on two fronts. The one, within the industry, the other among the shore based labour markets and social reference components. The case of astronauts proved to be instructive. Astronauts' high prestige did not stem from their flying in space or to the moon, but from their scarcity and the high level of qualifications needed for these flights. So should it be in the case of seafarers. Reducing the numbers needed per ship's crew, and increasing their level of qualifications, should be followed with higher prestige ashore. But, in order to achieve these aims, shipowners must begin now a campaign in which the status of the seafarer and his social prestige ashore can be altered. This could be more easily obtained if the merchant marine officer's job had been properly rewarded when either on board ship or ashore on leave. This fits in well with the results obtained in the present study. There is, therefore, an urgent need, first to do everything possible to strengthen the level of seafarers' qualifications. It is not any longer enough that the merchant officer knows how to operate ships of the present generation. He must also be well qualified now for the handling of future generations of higher technology. This should lead to higher prestige and status ashore of the merchant officer even if these specific ships do not exist yet. One's status and prestige ashore, or in the competing labour markets, also depend highly on one's personal



evaluation of, and actual realisation of, expectations when on the job, within the organisational situational environment. We therefore contend that even if shipping owners postpone their investments for the time being in the expensive sophisticated technology, they should begin to look now on this investment as imperative and begin with manpower planning and development. The owners must begin with such steps of manpower development changing the social status of the ship officer and his prestige among shore labourers (we are also in this context reminded of the rank of "captain" given to ship masters, who refused to sail during the Second World War, or of the "commodore" rank bestowed on the ship masters of large passenger ships who actually preferred to sail on cargo vessels where the pay was the same and the work less demanding). Otherwise when these owners have invested in the future by adopting the highly sophisticated technology, even if the crews are then reduced to something like 6-10 people per ship, no potential supply of properly qualified manpower would be found. Let us not forget that shipping is a traditional business not because one cannot learn and master it at school; it is so mainly because experience is so important under pressure and loneliness, or under unstable conditions as found when "socialising with Mr. Neptune's servants". This means that whether it is a "national" shipping company, "risk averse" or "risk prone" ownership, all have to begin to (Möreby 1984 : 17) : "address the" issue of relocating their specialist skills ashore. This could be done provided sets of recommendations, such as are found in the Rochdale Report (1970), address the issue not only within the shipping industry - as to how should merchant manpower be managed and manipulated - but also a complementary list of recommendations should be prepared concerning the ways and means by which the industry could survive the low attraction it has among shore labour markets, especially in modern states. This, then, eliminates the choice of the 'lazy monopoly' style of manpower management in shipping (See last

remarks in Sheers 1985). It even demands and diminishes the possible alternative of "risk prone" ownership, for the amounts of capital investment needs, could not allow for it, especially when modern shipping (in its third organisational-developmental phase) puts a strong emphasis on shore manpower expertise. It is, therefore, to be hoped that if "truly concerned" owners survive and remain in the shipping business, suggestions such as the Rochdale recommendations will be daily practice - otherwise all the investments are in vain. Relocation of the crews from ship to shore will sharpen the need for a "well tempered" manpower policy, on the one hand, and, on the other, should allow for better schemes for career development, transfer from ship to shore activity, second career plans etc. However, it must be well planned for if seafaring occupation is dealt with as to-date - without attention to prestige, status and other rewards seafarers expect, when compared to shore based occupations - we can easily foresee that when seafarers are transferred to shore activity, they would very soon leave the industry, and with good reason. Their information and contact with shore based industries or occupations would make them quit on any first chance or opportunity, unless, as we have suggested, action is taken well in advance. The phase in which the technology would allow for "zero-crew" ships means (Moreby 1984 : 17) "Transferring the crew from sea to shore". This can either happen as an evolutionary process. It is believed that the "evolution" alternative appeals more to the basically "traditional" shipping industry. Although it is only a matter of time until this happens, whether it does or does not happen soon, the main results of the present work are that the merchant marine officer's occupation should be handled as any other shore based occupations. The glamour of the seafarer's occupation failed when modern aviation and information transfer techniques were introduced and if no other more modern image is attached (again by stressing manpower higher qualifications) to the merchant marine officer's occupation, the problem

studied here will worsen. We, of course, tend to leave the task to public opinion manipulation experts, but ship owners must be aware both of the advantages (of longer career plans) and the disadvantages (postponement, but not elimination and cancelling of quitting behaviour) that follow the sophistication of the shipping industry and occupation. For it is believed that : "The right combination of technology and people are the key to successful ship operation" (Segan 1984 : 11).

We therefore suggest that further research is necessary. It should, for example, study the seafarer's occupation with regard to future characteristics compared to other shore-based occupations. This has not yet been done. Then there is the work to be done in the realm of the relationship between occupational changes as affected by organisational and institutional environment modernisation processes. Other works should be dedicated to the relationship between management and manpower policies in industries which employ telematics (the combination of telecommunication and data information). They should also show how to alter the merchant officers' location into something much closer to the "professional" academic and sophisticated body of people (in its essential "sociological" meaning as in Weber's theory). Another body of research should study the future chances and possibilities of Third World shipping and its prospects for future sophisticated shipping.

## 7.5. CONCLUSION

Concluding the present work, it could be said that we have arrived with two groups of results. The first is in the theoretical realm of studying commitment among merchant marine officers. This prompted us to add to the redefinition of our theoretical perspective. It also encouraged us to rephrase our model structuring, by adding a new meaning to the labour market opportunities and to reference variables as well. Instead of trying to investigate the results of commitment, either by the organisation of the employee (although these are important subjects), we still believe that it should be related to the results of future studies along the lines of the present work.

The second group of conclusions concerns the merchant marine industry, and is derived from our theoretical and empirical results. This group of results widens the scope of the problems facing the shipping industry in the light of organisational, social and economic problems for if the scientists do agree that shipping is an open system, the industry should start soon to adapt itself to that line of thought.

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Part 2. Towards a Redistribution of responsibility on board ship  
Part 3. The matrix organisation - Towards a multiple skill structure  
Part 4. Decentralisation - the redefinition of authority in Shipping Company Organisation  
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APPENDIX (A)

Jobs on Israeli Merchant Ships (Supervised by The Shipping & Ports Administration)  
By Department, Rank & Nationality  
1976 - 1985

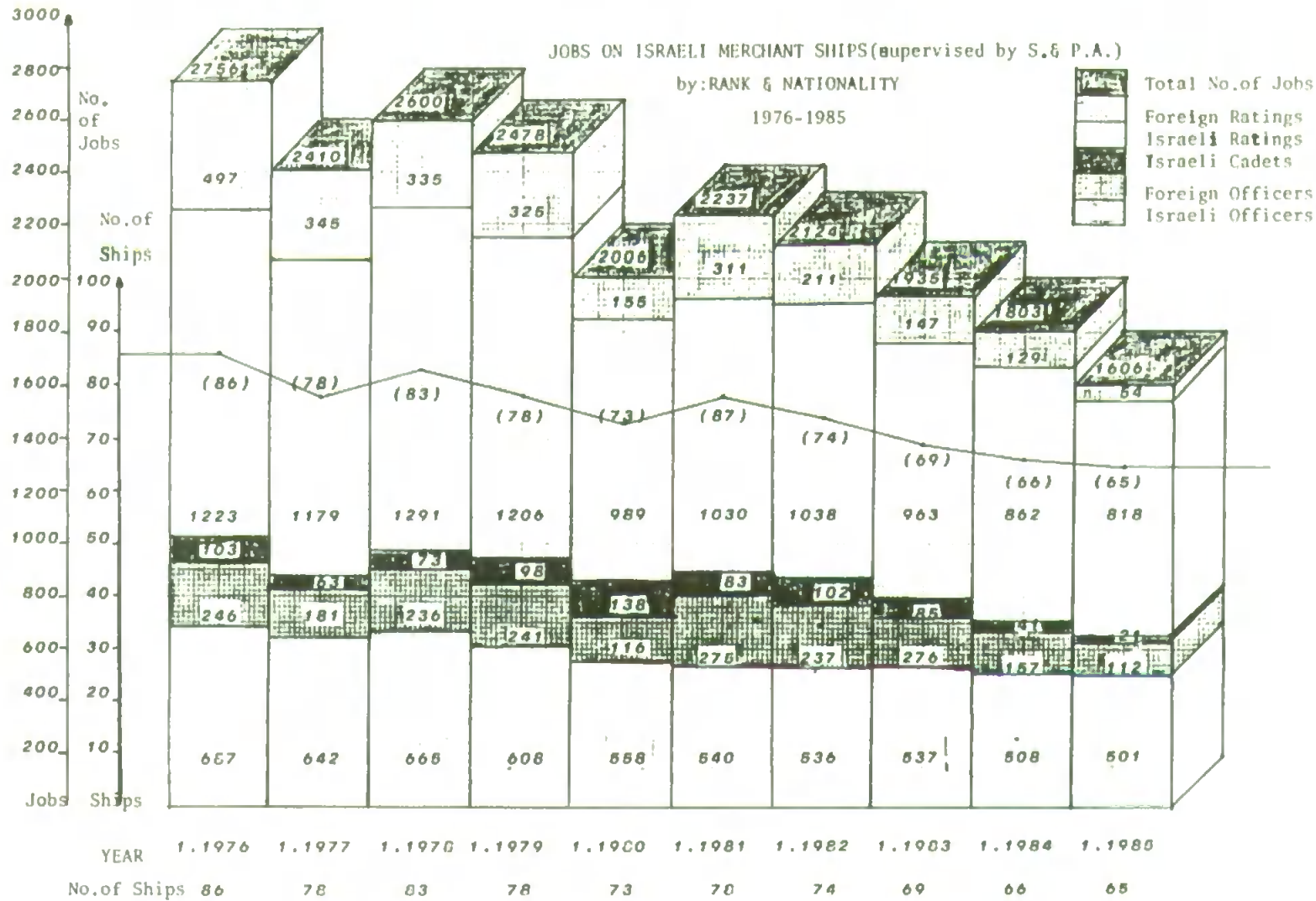
Date	1.1.76			1.1.77			1.1.78			1.1.79			1.1.80		
Citizenship-Nationality Department & Rank	Israeli Nation.	For'n %	Total #Jobs	Israeli Nation.	For'n %	Total #Jobs	Israeli Nation.	For'n %	Total #Jobs	Israeli Nation.	For'n %	Total #Jobs	Israeli Nation.	For'n %	Total #Jobs
Total # of Jobs(all ships)	2013	27.0	2756	1884	21.8	2410	2029	22.0	2600	1912	22.8	2478	1681	16.2	2006
Total # Officers' Jobs	687	26.4	933	642	22.0	823	665	26.2	901	608	28.4	849	558	22.9	724
Deck Officers	286	16.4	342	271	13.4	313	268	20.0	335	252	20.0	315	231	13.8	268
Radio Officers	75	11.8	85	66	5.7	70	75	5.0	79	64	11.1	72	63	3.0	65
Engine Officers	326	35.6	506	305	30.7	440	322	33.9	487	292	36.8	462	264	32.5	391
Total # of Ratings' Jobs	1223	28.9	1720	1179	22.6	1524	1291	20.6	1626	1206	21.2	1531	989	13.5	1144
Deck Ratings	450	31.0	653	430	24.4	569	481	20.2	603	439	20.3	551	381	13.6	441
Engine Ratings	322	30.5	463	321	22.8	416	350	19.9	437	350	18.4	429	286	18.8	352
Utility & Fishermen	451	25.3	604	428	20.6	539	460	19.0	520	417	24.3	551	322	8.3	351
Cadets	103	-	103	63	-	63	73	-	73	98	-	98	134	2.9	138
# OF SHIPS	86			78			83			78			73		
Average Jobs per Ship	23.4	8.6	32.0	24.2	6.7	30.9	24.4	6.9	31.3	24.5	7.3	31.8	23.0	4.5	27.5

Date	1.1.81			1.1.82			1.1.83			1.1.84			1.1.85		
Citizenship-Nationality Department & Rank	Israeli Nation.	For'n %	Total #Jobs	Israeli Nation.	For'n %	Total #Jobs	Israeli Nation.	For'n %	Total #Jobs	Israeli Nation.	For'n %	Total #Jobs	Israeli Nation.	For'n %	Total #Jobs
Total # of Jobs(all ships)	1653	26.1	2237	1676	21.1	2124	1585	18.1	1935	1417	21.4	1803	1340	16.6	1606
Total # Officers' Jobs	540	33.6	815	536	30.7	773	537	24.7	713	508	23.6	665	501	18.3	613
Deck Officers	216	27.3	295	225	22.4	260	227	15.6	269	216	17.2	261	221	11.2	249
Radio Officers	78	-	78	63	3.1	65	61	4.7	64	58	13.4	67	53	13.1	61
Engine Officers	246	43.8	438	248	40.7	418	249	34.5	380	234	32.6	347	227	25.1	303
Total # of Ratings' Jobs	1030	23.2	1341	1038	16.9	1249	963	15.3	1137	862	21.0	1091	818	15.8	972
Deck Ratings	389	20.6	490	399	14.9	469	386	12.1	439	332	18.3	394	326	13.8	378
Engine Ratings	268	26.0	362	267	15.0	314	235	13.9	237	210	21.1	266	196	15.5	232
Utility & Fishermen	379	23.7	489	372	20.2	466	342	19.5	425	318	26.2	431	296	18.2	362
Cadets	83	-	83	102	-	102	85	-	85	41	-	41	21	-	21
# OF SHIPS	78			74			69			66			65		
Average Jobs per Ship	21.2	7.5	28.7	22.6	6.1	28.7	23.0	5.1	28.0	21.5	5.8	27.3	20.6	4.1	24.7

# JOBS ON ISRAELI MERCHANT SHIPS (supervised by S. & P.A.)

by: RANK & NATIONALITY

1976-1985



Appendix. Full Correlations Matrix - All 58 Variables. (a)

	v004	v010	v016	v017	v024	v037	v053	v090	v047	v048	v051	v062	v070	v075	v100	v101	v119
v004	1.0																
v010	-.150	1.0															
v016	-.117	-.063	1.0														
v017	.146	.064	-.913	1.0													
v024	.169	.124	-.122	.152	1.0												
v037	.017	.066	-.395	.390	.092	1.0											
v053	.024	.110	-.313	.334	.103	.502	1.0										
v090	-.060	.031	-.071	.056	.079	.110	.099	1.0									
v047	-.095	-.148	.056	-.059	.016	-.135	-.138	-.110	1.0								
v048	-.036	-.061	.012	-.003	.062	-.090	-.051	-.108	.431	1.0							
v051	-.009	.093	-.275	.284	.037	.470	.231	.087	.054	.047	1.0						
v062	.027	-.008	-.024	.004	-.025	-.016	.023	.024	.094	.047	.062	1.0					
v070	.049	.054	-.074	-.003	.005	-.052	.003	.029	.102	-.028	-.026	.002	1.0				
v075	.020	-.099	.070	-.095	.059	-.161	-.065	.000	.095	.106	-.073	-.007	.060	1.0			
v100	.052	.027	.018	-.001	-.050	-.254	-.103	-.057	.249	.182	-.133	-.022	.060	.092	1.0		
v101	.043	.081	-.061	.066	.025	-.069	-.012	-.063	.261	.202	-.066	-.023	.043	.073	.681	1.0	
v119	.019	.039	-.076	.009	-.030	-.161	-.115	-.069	.189	.173	-.122	.058	.076	.092	.434	.477	1.0
v129	.070	.104	-.031	.059	.017	-.023	-.026	-.042	.246	.138	-.019	-.026	-.032	-.056	.579	.710	.505
v130	-.025	.072	-.012	.077	-.069	-.098	-.095	-.017	.213	.137	-.080	-.076	-.051	-.052	.442	.576	.467
v131	.053	.062	.034	-.021	-.044	-.216	-.161	-.071	.243	.201	-.129	-.019	.011	-.052	.639	.644	.550
v140	.004	.031	.075	-.053	-.043	-.228	-.134	-.063	.302	.219	-.131	.003	.077	.053	.557	.557	.489
v164	.004	.000	.007	-.073	-.061	-.153	-.130	.017	.120	.034	-.081	.009	.846	-.066	.119	.092	.111
v170	.032	.092	.011	-.048	.019	-.139	-.049	.045	.102	-.077	-.077	.000	.893	-.164	.064	.041	.093
v186	.075	.061	-.008	-.021	-.017	-.094	-.058	-.103	.244	.203	-.103	.040	.046	.046	.427	.441	.545
v192	.057	.080	-.026	.007	-.028	-.070	-.062	-.131	.256	.230	-.059	.022	.034	.030	.376	.413	.538
v193	.121	.089	-.032	.058	.010	.000	-.002	.071	.124	.038	-.123	-.091	.121	-.056	.295	.344	.368
v194	.031	.041	-.011	.011	-.042	-.100	-.082	.025	.067	.016	-.060	-.082	.078	-.029	.277	.281	.344
v195	.106	.075	-.128	.132	.015	.027	.075	.099	.062	.010	-.024	-.080	.058	-.049	.094	.126	.318
v196	.116	.120	-.123	.139	.054	.044	.095	.062	.043	.068	-.000	-.079	.094	-.014	.226	.248	.318
v043	-.083	-.152	.128	-.140	-.085	-.200	-.124	-.036	.379	.542	-.003	.027	-.108	.259	.205	.107	.083
v045	-.018	-.136	.060	-.027	-.030	-.105	-.063	-.088	.404	.469	-.206	-.002	.025	.068	.181	.123	.083
v091	.022	-.098	.011	-.077	.058	-.080	-.093	-.056	.121	.081	-.101	.072	-.020	.085	.051	.076	.115
v153	.034	.066	.079	-.097	.088	-.223	-.172	-.125	.080	.181	-.145	.065	.069	.006	.093	.093	.115
v143	.048	.085	.233	-.230	.135	-.076	-.040	-.010	-.009	-.007	-.112	.050	.164	-.049	-.086	-.041	.064
v144	.028	.083	-.028	.097	.042	.139	.199	-.077	-.045	.007	-.047	-.031	.162	-.151	-.014	.121	.044
v108	.037	.057	.071	.013	-.026	.095	.121	-.110	-.077	-.007	-.036	-.030	.136	-.127	-.022	.066	-.073
v109	.051	.028	-.022	.013	.006	-.128	-.065	-.046	.228	.143	-.115	-.023	.132	.010	.702	.735	.650
v050	-.159	-.047	.200	-.216	-.079	-.174	*.274	-.088	.120	.045	-.025	-.109	-.052	.122	.078	.018	.018
v128	.085	.137	.048	-.020	.007	-.087	.054	-.093	.129	.059	-.130	-.096	.145	-.128	.374	.510	.453
v001	-.028	-.003	.039	-.076	-.025	-.115	-.093	.052	.135	.003	-.073	.023	.870	-.100	.105	.022	.094
v002	.026	.032	.006	-.073	-.034	-.122	-.077	.074	.089	-.022	-.073	.023	.870	-.100	.105	.022	.094
v030	-.018	.096	-.071	.050	-.080	.141	.046	.019	.016	.026	.133	.049	.058	.050	.012	.019	.009
v049	-.817	-.005	.117	.132	-.074	-.123	-.065	.024	-.004	.161	.110	.097	-.061	.113	-.060	-.065	-.009
v084	-.031	.040	-.040	-.065	-.029	-.129	-.110	.048	.134	.003	-.087	.042	.868	-.119	.069	.031	.087
v093	.027	-.045	.112	-.101	-.043	-.059	.014	.007	-.094	-.037	.005	-.059	.009	.098	-.052	.038	.042
v106	.078	.096	.005	.005	.035	-.048	.001	-.045	.188	.174	-.083	-.085	.123	.005	.420	.471	.412
v107	.013	.099	-.145	.149	-.075	-.074	-.081	.175	.228	.132	-.068	-.017	.071	-.005	.555	.583	.371
v110	-.057	-.068	.038	-.067	-.115	-.131	-.064	.061	.306	.151	-.066	-.008	.032	.039	.557	.537	.530
v126	.044	.052	-.086	.063	.037	-.131	-.064	.045	.096	.104	-.069	.007	.890	-.067	.117	.078	.096
v172	-.036	-.016	.008	-.046	-.028	-.066	-.046	.045	.096	-.017	-.033	.051	.835	-.137	.085	.049	.103
v173	.004	.043	-.042	.019	-.026	-.064	-.046	.045	.096	-.006	-.038	.001	.872	-.179	.064	.068	.087
v174	.071	.122	-.032	-.009	.030	-.038	.008	.007	.085	-.006	-.022	-.041	.844	-.164	.080	.072	.076
v176	.058	.083	-.009	-.012	.004	-.068	-.009	.026	.093	.009	-.022	-.041	.844	-.164	.080	.072	.076
v072	.128	-.037	-.074	.089	-.028	.030	.107	.010	-.036	-.061	.077	.031	.025	.071	-.065	-.133	-.095
v141	.069	.008	-.078	.082	.061	.113	.109	-.100	.037	.077	.169	.064	.099	-.145	-.154	-.138	-.018
v004	v010	v016	v017	v024	v037	v053	v090	v047	v048	v051	v062	v070	v075	v100	v101	v119	

Full Correlations Matrix - All 58 Variables. (b)

	v129	v130	v131	v140	v164	v170	v186	v192	v193	v194	v195	v196	v040	v043	v045	v091
v004																
v010																
v016																
v017																
v024																
v037																
v053																
v090																
v047																
v048																
v051																
v062																
v070																
v075																
v100																
v101																
v119																
v129	1.0															
v130	.739	1.0														
v131	.761	.725	1.0													
v140	.649	.594	.793	1.0												
v164	-.038	-.059	.039	.081	1.0											
v170	-.025	-.077	.028	.025	.834	1.0										
v186	.548	.375	.499	.450	.057	.043	1.0									
v192	.503	.426	.535	.566	.044	.029	.666	1.0								
v193	.316	.283	.398	.289	.096	.097	.262	.235	1.0							
v194	.324	.315	.396	.291	.034	.055	.272	.273	.520	1.0						
v195	.270	.275	.336	.242	.011	.038	.244	.187	.650	.558	1.0					
v196	.281	.227	.344	.251	.056	.080	.280	.287	.608	.448	.658	1.0				
v040	.056	.065	.109	.135	.023	-.084	.134	.124	.115	.062	.045	.274	1.0			
v043	-.015	.087	.129	.128	.054	.021	.130	.072	.126	.108	.088	.091	.538	1.0		
v045	.071	.079	.097	.132	.012	-.091	.087	.137	.049	.002	-.046	.024	.678	.488	1.0	
v091	-.010	-.004	.064	.084	.045	-.013	.051	.064	.066	-.011	.007	.002	.088	.123	.090	1.0
v153	.108	.145	.252	.211	.036	.067	.102	.197	.175	.132	.102	.194	.177	.187	.098	.126
v143	-.046	-.046	-.008	-.069	.578	.223	.030	.013	.102	-.008	.046	.117	.090	-.020	-.003	.038
v144	.031	.072	.028	-.044	.134	.143	-.014	-.071	-.011	.012	.037	.031	-.161	-.088	-.020	-.089
v145	.024	.022	.030	-.002	.131	.086	.036	.038	.029	.023	.021	-.000	-.140	-.085	-.005	-.092
v108	.656	.494	.643	.546	.167	.131	.604	.521	.409	.314	.311	.324	.114	.135	.088	.005
v109	.585	.498	.586	.503	.102	.026	.520	.487	.338	.259	.262	.321	.126	.147	.210	-.000
v050	.023	.004	.078	.082	.023	-.039	-.041	.057	.000	-.005	-.101	-.124	.131	.079	.168	.062
v128	.544	.510	.601	.479	.113	.161	.410	.379	.272	.275	.241	.247	-.094	.051	.032	-.019
v001	-.048	-.084	.023	.060	.829	.835	.060	.061	.074	.021	-.009	.029	-.001	.019	-.010	.031
v002	-.059	-.087	.045	.065	.855	.844	.073	.056	.142	.103	.030	.097	-.041	.029	-.067	-.031
v030	-.012	.003	-.055	-.074	.029	.038	-.063	-.076	.034	-.022	.051	.003	-.033	-.079	.027	-.003
v049	-.053	.041	-.041	-.027	.014	-.072	.044	.036	-.065	-.064	-.038	-.027	.148	.175	.094	.093
v071	-.057	-.074	.028	.088	.812	.835	.047	.028	.118	.055	.063	.044	-.047	.068	-.044	-.019
v084	-.046	-.030	-.039	.001	.041	-.007	-.002	.031	.014	-.026	.017	.063	.047	.099	.045	.048
v093	-.064	-.049	-.094	-.089	-.036	-.018	-.035	-.092	.011	-.023	.002	-.020	-.012	.010	-.023	-.091
v106	.444	.379	.419	.369	.135	.103	.343	.330	.240	.108	.129	.210	.151	.077	.112	.025
v107	.485	.442	.448	.369	-.023	-.055	.326	.303	.301	.107	.223	.221	.103	.124	.095	.028
v110	.351	.289	.428	.386	.112	.052	.278	.288	.201	.100	.121	.110	.099	.107	.115	-.073
v126	.516	.435	.533	.573	.080	.041	.370	.439	.247	.215	.288	.315	.103	.106	.132	.111
v172	-.019	-.045	.062	.082	.820	.810	.093	.068	.085	.041	.016	.059	-.045	.048	-.055	.000
v173	-.064	-.084	.017	.049	.785	.813	.070	.057	.116	.048	.044	.078	-.091	.018	-.080	-.046
v174	-.029	-.059	.016	.010	.813	.883	.018	.014	.116	.052	.081	.087	-.103	.020	-.077	.011
v176	-.010	-.063	.053	.032	.801	.850	.041	.062	.098	.074	.061	.078	-.101	.042	-.062	.008
v072	-.113	-.109	-.060	-.056	-.050	-.075	-.110	-.048	-.030	-.079	-.003	-.038	-.048	-.038	.009	-.045
v141	-.043	-.022	-.144	-.133	.057	.076	-.044	-.061	-.079	-.108	-.049	-.047	-.078	.015	-.053	.112
v129																
v130																
v131																
v140																
v164																
v170																
v186																
v192																
v193																
v194																
v195																
v196																
v040																
v043																
v045																
v091																

Full Correlations Matrix - All 58 Variables. (c,d,)

	v091	v153	v143	v144	v145	v108	v109	v050	v128	v001	v002	v030	v049	v071	v084	v093	v106
v091	1.0																
v153	.126	1.0															
v143	.038	.068	1.0														
v144	-.089	-.043	.181	1.0													
v145	-.092	-.007	.134	.681	1.0												
v108	.005	.130	.025	.048	-.005	1.0											
v109	-.000	.116	.045	.072	.071	.830	1.0										
v050	.062	.093	.093	-.168	-.164	.016	.056	1.0									
v128	-.019	.178	.146	.320	.280	.528	.466	-.164	1.0								
v001	.031	.051	.145	.087	.072	.113	.036	-.000	.065	1.0							
v002	-.031	.043	.154	.112	.089	.134	.058	-.023	.081	.835	1.0						
v030	-.003	-.061	.081	.179	.097	.037	.060	.053	-.098	.126	.063	1.0					
v049	.093	.053	.037	-.027	.094	-.076	-.068	.135	-.144	-.053	-.048	.088	1.0				
v071	-.019	.058	.140	.102	.059	.108	.041	.017	.115	.813	.824	.046	-.033	1.0			
v084	.480	.038	.108	.043	.017	-.016	-.054	-.050	-.018	.008	.041	.061	-.007	-.000	1.0		
v093	-.091	-.041	.048	-.033	-.024	-.065	-.067	.022	-.045	-.052	.006	-.039	.142	.001	-.040	1.0	
v106	.025	.179	.134	.108	.096	.601	.586	.007	.451	.089	.080	.056	.002	.087	.049	.015	1.0
v107	.028	.070	-.071	.009	-.009	.609	.552	-.026	.346	-.041	-.043	.213	.024	-.065	.010	-.068	.509
v110	-.073	.111	-.034	.028	-.022	.505	.439	.078	.321	.089	.107	-.068	.027	.084	-.026	-.018	.293
v126	.111	.052	-.017	.001	-.064	.557	.494	.088	.334	.067	.040	.040	-.057	.030	-.023	-.018	.340
v172	.000	.058	.127	.097	.044	.154	.087	.033	.110	.820	.828	.062	-.079	.806	-.009	-.007	.109
v173	-.046	.033	.142	.110	.075	.135	.065	-.057	.092	.803	.831	.069	-.091	.798	.009	-.017	.092
v174	.011	.035	.021	.192	.157	.147	.073	-.094	.154	.793	.830	.048	-.066	.799	-.029	-.027	.131
v176	.008	.067	.194	.136	.136	.147	.077	-.037	.149	.783	.814	.035	-.053	.765	-.031	-.025	.115
v072	-.045	-.083	-.065	.011	.015	-.150	-.180	-.150	-.052	-.080	-.035	-.034	-.030	-.035	.007	.017	-.122
v141	.112	-.035	-.033	-.012	-.010	-.053	-.106	-.123	.024	.054	.065	.040	.069	.050	-.063	-.057	-.038

	v107	v110	v126	v172	v173	v174	v176	v072	v141
v107	1.0								
v110	.376	1.0							
v126	.419	.362	1.0						
v172	-.045	.112	.068	1.0					
v173	-.050	.088	.050	.878	1.0				
v174	.008	.035	.074	.808	.811	1.0			
v176	.006	.065	.050	.799	.770	.900	1.0		
v072	-.075	-.102	-.095	-.069	-.023	-.037	-.037	1.0	
v141	-.050	-.028	-.103	.033	.075	.095	.063	.175	1.0



Appendix. FACTOR ANALYSIS TEST RESULTS - Varimax Rotated Factor Matrix.

Var.No.	Variable Name	Factor Loading	Var.No.	Variable Name	Factor Loading
FACTOR NO. I: ATTITUDES & EVALUATION			Factor No. I - Continued		
038	Influence on management	.31695	II7	Company sees to Recreation	.63295
046	Relation to peers	.28412	II9	Company Cares for Safety	.63117
047	Relation to Superiore	.33431	I20	Company/ship Hygiene Cond.	.69065
067	Officers' Relation to Cadets on board	.04621	I22	Income/Wage Importance	.35645
080	Remain because of love of occupation	.04563	I23	Importance of Autonomy	.73209
081	Remain because of love of Atmosphere	.14676	I24	Import.Occupat'nal Advanc.	.70056
083	Remain because of the Characteristics of Work	.05111	I25	Crew Atmosphere at Sea	.75699
I00	Interest brought me to present Occupation	.75672	I26	Others' Propensity to Leave	.66561
I01	Wages brought me to the present Occupation	.60494	I27	Ratings' Professional Level	.55239
I02	Professional Advancement Brought me to Occupation	.69308	I29	Retention by Wage Raise	.84701
I03	Wish to learn an Occupation brought me to sea	.49276	I30	Retain by Loans	.73947
I04	I Became a Seaman 'cause I Wanted to see the world	.67705	I31	Embetter Work Relations	.85548
I05	No. of Work Places prior to becoming a Seaman	.58947	I32	Retain by modern Ships	.75572
I06	Chances to/Worth in local Shipping Labor Market	.56035	I33	Better Shore-Ship Relations	.75094
I07	Chances to/Worth in local Shore Labor Market	.61495	I34	Better Living Accomodations	.81703
I08	Actual Job Search in Another Shipping Company	.81543	I35	Retain by More Information	.79973
I09	Actual Job Search in Shore Labor Market	.73780	I36	Retain by better Safety	.75963
II0	Afraid of becoming/Being Redundant/Fired	.47639	I37	Retain by Company not Other	.67246
III	Personal Family Plans	.63702	I38	Management participation	.70358
II2	Company Spreads Information	.60931	I39	Retain by Seniority Bonus	.80771
II3	Company cares for seamen Rest & Accomodations	.63039	I40	Retain by More Responsibil.	.75532
II4	Company cares for food	.66664			
II5	Company Cares for Light	.60936			
II6	Company sees to Less - Noise	.65094			

Factor I;  
 Eigenvalue 20.29979  
 % of Var. 77.6

Cont.

## VARIMAX ROTATED FACTOR MATRIX

Var.No.	Variable Name	Factor Loading	Var.No.	Variable Name	Factor Loading
FACTOR NO. 2: Social-Economic BACKGROUND			FACTOR NO. 3: Job-Situation & ENVIRONMENT		
004	Country/Continent of Birth	-.23436	011	Size of Family of Origin	.17303
009	Present Father's Occupation	.40373	052	Money Saving of Family	.04071
010	Father's Education	-.20325	060	Ship's Automation Import	.09312
016	Marital Status	.74223	062	Crew Social Relations	.02715
017	Year of Marriage	.71927	063	No. of Ports in Voyage	-.17469
020	No. of Children (ego's)	.63257	070	Limits on Sea-Life Time	.11511
029	Where studied profession	-.19102	071	Too Much at Sea Bad for Shore life when retired	.10894
040	Job Satisfaction	.26300	072	Commitment- Sea Time	-.11293
049	Social Status in Public	.16264	076	Recreation on board	.07431
050	Propensity to Remain	.35081	086	Remain because of Habit	-.26073
051	Wage/Income Level	-.27989	088	Remain because of troubles Ashore	-.17223
053	Sea Tenure	-.61092	089	Remain because didn't find a work ashore	-.13431
075	Interest in Work Place	.16756	097	Academization will Cause Retainment	.11455
090	Employing Shipping Company	-.12116			
094	Propensity to Remain & Fixed Period in Advance	-.15394			
113	Comp. should give Loans	.35395			

Factor 2;

Eigenvalue 3.40053  
% of Var. 13.0

Factor 3;

Eigenvalue 2.44601  
% of Var. 9.4

Remark; The original plan & aim was to conduct a factor analysis on factor No. 1 - into three factors (Attitudes to: job, occupation & towards employing shipping company), and then, to obtain the Factor correlations matrices. By which data, we planned to obtain the 'inverse correlation matrix' - which should allow us to conduct the 'highest order correlation' (Pollatchek, 1974). This, should have given us a more concise and accurate description and verification of the theoretical model - by computation of data. As explained earlier, this was not done because of limits of computer services imposed on us.

## Appendix No. 'a'

COMPARISON BETWEEN ISRAELI ACTIVE SEAMEN & AVERAGE JOBS ON SHIPS : BY RANK  
 AND SHIPPING COMPANY ON 1976  
 Source; Sen. Merch. Mar. Manp. Pl.

Active seamen No. of jobs Shipping Co. Rank	Active Israelis (#) on January-December 1976				Average No. of Jobs on January-December 1976				Active Israeli Seamen (Average) per Job-1976			
	Total Comp. (1)	Zim Comp. (2)	E-Yam Comp. (3)	Other Comp. (4)	Total Comp. (5)	Zim Comp. (6)	E-Yam Comp. (7)	Other Comp. (8)	Total Comp. (1/5)	Zim Comp. (2/6)	E-Yam Comp. (3/7)	Other Comp. (4/8)
Total No. of Certified Jobs	2195	1496	201	498	1592	1054	172	366	1.38	1.42	1.17	1.36
Total No. of Officers' Jobs	1199	769	114	316	870	576	90	204	1.38	1.34	1.27	1.55
Deck Officers	517	318	46	153	326	216	33	77	1.59	1.42	1.39	1.99
Master	179	107	14	58	81	52	8	21	2.21	2.06	1.75	2.76
1'st Mate	66	33	8	25	87	56	8	23	0.76	0.59	1.00	1.09
2'nd Mate	92	53	13	26	85	54	9	22	1.08	0.98	1.44	1.18
3'rd Mate	180	125	11	44	73	54	8	11	2.47	2.31	1.38	4.00
Radio Officers	135	92	15	28	76	51	8	17	1.78	1.80	1.88	1.65
Engine Officers	547	359	53	135	468	309	49	110	1.17	1.16	1.08	1.23
Chief Eng.	120	75	9	36	84	54	8	22	1.43	1.39	1.13	1.64
1'st Eng.	62	41	6	15	83	56	8	19	0.75	0.73	0.75	0.79
2'nd Eng.	73	47	4	22	106	70	12	24	0.69	0.67	0.33	0.92
3'rd & 4'th E.	200	135	26	39	118	83	13	22	1.69	1.63	2.00	1.77
Elect & Refri.	92	61	3	23	77	46	3	23	1.19	1.33	1.00	1.00
Total Certified Ratings	996	727	87	182	722	478	82	162	1.38	1.52	1.06	1.16
Cert. Deck Ratgs.	525	386	47	92	406	275	47	84	1.29	1.40	1.00	1.10
Cert. Eng. Ratgs.	471	341	40	90	316	203	35	78	1.49	1.63	1.14	1.15
Total Non-Certi.	1650	1175	188	287	955	626	101	228	1.73	1.88	1.86	1.26
Grand Total	3845	2671	389	785	2547	1680	273	594	1.51	1.59	1.42	1.32

## Percentages

Grand Total	100.0	69.5	10.1	20.4	100.0	66.0	10.7	23.3
Total Officers	100.0	64.1	9.5	26.4	100.0	66.2	10.3	23.5
Cert. Ratings	100.0	73.0	8.7	18.3	100.0	66.2	11.4	22.4
All Others	100.0	73.0	8.7	18.3	100.0	66.2	11.4	22.4
Grand Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total Officers	31.2	28.8	29.3	40.3	34.2	34.3	33.0	34.3
Cert. Ratings	25.9	27.2	22.4	23.2	23.3	28.5	30.0	27.3
All Others	42.9	44.0	48.3	36.5	37.5	37.2	37.0	38.4

"Active"- Seaman, who has at least 1 day seetime aboard a ship during a whole year prior to a fixed date/date of table.

"Jobs" - Average No. of jobs aboard supervised Israeli ships (Israeli and/or other flag) Reported to be owned by Israeli Shipping Companies (during January-December 76).

Appendix. LIST OF VARIABLES (in the computer run) and their Questionnaire  
No. of Question.

Computer Var.No.,	Question No.	Computer Var. No.	Question No.	Computer Var. No.	Question No.	Computer Var. No.	Question No.
001	214	051	128	101	263	152	099
002	219	052	129	102	264	153	096
003	001	053	131	103	265	154	130
004	002	054	138	104	266	155	133
005	003	055	139	105	267	156	134
006	004	056	140	106	273	157	183
007	006	057	141	107	274	158	184
008	007	058	142	108	275	159	183
009	008	059	143	109	276	160	139
010	010	060	144	110	277	161	215
011	012	061	145	111	278	162	216
012	013	062	146	112	279	163	217
013	014	063	147	113	280	164	218
014	015	064	148	114	281	165	220
015	016	065	149	115	282	166	221
016	017	066	150	116	283	167	222
017	018	067	151	117	284	168	223
018	019	068	152	118	285	169	224
019	020	069	153	119	286	170	225
020	022	070	232	120	287	171	226
021	035	071	233	121	288	172	227
022	036	072	Sea-Time 1976	122	290	173	228
023	037	073	154	123	291	174	229
024	038	074	155	124	292	175	230
025	039	075	159	125	293	176	231
026	041	076	160	126	295	177	268
027	042	077	161	127	269	178	269
028	043	078	162	128	301	179	270
029	048	079	163	129	304	180	271
030	057	080	164	130	305	181	294
031	058	081	165	131	306	182	297
032	059	082	166	132	307	183	298
033	060	083	167	133	308	184	299
034	063	084	168	134	309	185	300
035	064	085	169	135	310	186	317
036	087	086	170	136	311	187	318
037	088	087	171	137	312	188	319
038	090	088	172	138	313	189	320
039	091	089	173	139	314	190	321
040	092	090	175	140	315	191	322
041	093	091	176	141	Sea-Time 1982	192	323
042	094	092	177	142	040	193	325
043	102	093	178	143	049	194	326
044	103	094	179	144	052	195	327
045	104	095	185	145	053	196	328
046	105	096	208	146	055	197 Activity 1982	
047	106	097	210	147	056	198 Rank on 1982	
048	107	098	212	148	061		
049	108	099	213	149	062		
050	109	100	262	150	076		
				151	079		

(\*) Computer Var.No., (072., 141., 197., 198.,) are not derived from questionnaire but were drawn from the personal files of the seamen, in the Ministry of Transport, Shipping & Ports' Authority, Manpower Dept. Haifa.

Administration

(Rough translation of Questionnaire from Hebrew)

Dear Officer,

In view of expected developments in the maritime industry and in the Israeli fleet, it has been decided to make a detailed study into all subjects related to Israeli merchant marine officers at the present.

After having prepared a sample which will represent the Israeli officers, and mainly those who are 'active', we approach you to request that you answer the enclosed questionnaire, for your name is included in the statistical samples list of a representative officers body.

Any answers of yours given here shall be used only for our study and shall not be transferred to anybody in the industry. We hope that you agree to answer the detailed questions accurately. In answering you will probably help us to formulate a policy system which fits your feelings, wishes and hopes.

Please answer all the questionnaire, although parts you will not have an answer. In case some of the questions are not of any relation to you, try to answer all those that are to your careers. Each of the questions and your answers are important for us.

To most of the questions you should put an 'X' in the proper place and only a few demand a written sentence, in such a case try to give your reason.

Exemplary Question.

Question No. 8 :

My father's education is :

- .... 1) Elementary or less
- .... 2) Junior High School
- .... 3) High School
- .... 4) Professional
- .... 5) High Education (University, Polytechnic, etc.)
- .... 6) Other (please specify) .....

If your father's education is of high school, put your 'X' to answer No.3.

For some questions you are requested to give numbers or dates of birth, marriage and the like. Try to be as exact as possible.

Try to avoid any writing in the numbered squares near or on the side of questions. These are for coding your answers.

Part No. 1      General Questions

- (1) I was born in 19\_\_\_\_; (2) I was born in (country) \_\_\_\_\_
- (3) I emigrated to Israel (year) 19 \_\_\_\_\_; (4) My father was born in (country) \_\_\_\_\_; (5) My mother was born in (country) \_\_\_\_\_;
- (6) When I started my high school my father worked as \_\_\_\_\_;
- (7) and my mother worked as \_\_\_\_\_; Today my father works as \_\_\_\_\_;
- \_\_\_\_\_; (9) My mother works as \_\_\_\_\_;
- (10) My father's education (i) elementary or less (ii) partial high school (iii) Finished high school (iv) Professional (post high school) (v) High (university, polytechnic, academy etc.) (vi) Other.
- (11) My mother's education (as question No. 10); (11) No. of brothers \_\_\_\_\_

and sisters \_\_\_\_\_ ; (13) In my parents' family : (i) I'm first born  
(ii) middle born (iii) youngest born. (14) When I started learning  
seamanship (i) both my parents were alive and together (ii) both alive,  
but separate (iii) One of them was alive (iv) Both were dead already.  
(15) Is, or was, any of your family relatives a seaman? (i) No (ii) Yes  
If 'yes', what is your relationship? (i) He is my \_\_\_\_\_ (ii) He  
serves (did) at the rank of \_\_\_\_\_. (16) I studied to be a  
seaman in the department of (i) deck (ii) engine (iii) radio  
(iv) refrigeration (v) electricity (vi) fishing (vii) catering  
(viii) other. (17) My marital status today is (i) married, since 19\_\_\_\_\_  
(18) Divorced, single widower since \_\_\_\_\_; (19) My wife was born  
on (year) 19\_\_\_\_\_; (20) in the country \_\_\_\_\_; (21) and came  
to Israel in (year) 19\_\_\_\_\_; (22) How many children do you have  
(please give each one's gender and year he/she was born 23-34  
(35) Today, my wife is : (i) I'm not married (ii) a housewife (iii) non  
professional worker (iv) professional worker (v) she works in an academic  
job (vi) doesn't work. (36) My wife works as (i) a temporary employee  
(ii) part-time fixed (iii) full job fixed (iv) fixed, more than one job  
in one place (v) fixed, more than one job in more than one place  
(37) My monthly wages (i) are higher (more) than my wife's (ii) as my  
wife's (iii) less than hers (iv) my wife doesn't earn (v) I'm single  
(38) The flat in which I live is (i) my parents (ii) mine (iii) rented  
(39) in the flat there are \_\_\_\_\_ rooms and it's m<sup>2</sup> is about \_\_\_\_\_.  
(40) In my flat (i) there is a telephone (ii) there is no telephone  
(41) I have/have no car (42) My wife had finished education at  
(i) elementary school (ii) partial high school (iii) high school finished  
(iv) higher education (43) My wife is in the profession of \_\_\_\_\_  
(44) kind of school \_\_\_\_\_ (45) and received degree/certificate  
\_\_\_\_\_ in (year) \_\_\_\_\_.

(46) My seamanship studies I started in the context of (i) nautical school - which \_\_\_\_\_ (ii) floating school (ii) other \_\_\_\_\_

(47) I would send my child to a nautical school if he wanted to

(48) I would not send (ii) Yes I would, give reason \_\_\_\_\_

(49) Sending my child to nautical school, my wife (i) would have agreed to my decision (ii) would oppose (50) I think that to be a seaman, one should (i) begin learning at school (ii) begin after having served in the army (iii) doesn't matter when one begins

I consider that within the next five years there are (i) many chances (ii) few chances (iii) no chances that : (51) I'll change occupation (52) I'll change place of work (employer) (53) Change residence (54) Advance professionally (55) Transfer to shore job in the same organisation. (56) To the best of my knowledge the labour market where I live (i) craves for people of my qualifications (ii) searches for people with my qualifications (iii) someone like me can find a job (iv) although difficult, someone like me can find a job (v) There is hardly a chance when one has my qualifications.

(57) In your present place of work up to what rank do you want to advance (i) I'm at the top, I have nowhere to advance (ii) The higher possible than the bottom level (iii) the nearer to the top (iv) I don't want to, I feel good as it is (58-62) education, leave time etc.

#### PART B - Information about regular army service

(63) Regular Army service only (64) Army unit \_\_\_\_\_

(65) I was also (i) No (ii) Yes a professional soldier (66) If you said 'no' to question 66 then which of the following is applicable to you

(i) I was released 'after end of service' (ii) because of physical



conditions (iii) I was released because of family reasons (iv) I still serve in the regular army. If you answered 'Yes' which of the following is true? (i) I served as a professional in \_\_\_\_\_ unit, (ii) I started professional service (year) 19\_\_\_\_ (iii) I started in the rank of \_\_\_\_\_ (70) I've finished professional army service in (year) 19\_\_\_\_\_

(71) My last job was (i) mostly one of command (ii) mostly a staff job (iii) mostly live job (iv) mostly professional (like maintenance)

(72) Whether you served only as regular or professional in the navy, was your work (i) mainly at sea (ii) mostly ashore (iii) I didn't serve in the navy (73) Were your chances to advance in the army (regular or

professional) (i) good (ii) quite good (iii) bad (iv) I didn't think of

it. (74) Were you satisfied from your job in the service (i) Yes, very much (ii) quite satisfied (iii) No, not at all (75) Did your relatives

push you to leave the service (i) No (ii) Yes. (76) If your 'professional armed service' was in the navy, in which period have you decided to sign (again) for professional service (i) prior to high school (ii) while in high school (iii) after first voyage in the nautical school (iv) prior and within regular army service (v) after I had some service in the maritime industry (vi) after being a civilian and returned to army service.

(77) If you still work in the army, and you are to be released within the coming 5 years, to which civilian work would you prefer to transfer?

(i) I'm not in the army today (ii) I don't expect to be released until then (iii) I'd work as a merchant marine seaman (iv) I'll work ashore in an industry connected to the maritime industry (v) I'll work ashore in an industry with no relation to shipping (vi) I'll start/continue studying.

(78) Have you made/are you making any preparations towards your quitting the army service (regular or professional service)? (i) No (ii) Yes, by studying (iii) Yes, by job search (iv) Yes, by both (v) Yes, I've already

found a job (79) Have you accumulated sea-time while in the army service? (i) No (ii) Yes, it amounts to \_\_\_\_\_ months of sea-time. (80) Why did you decide to retire, or why didn't you re-sign for another period of army service? (open question). (81) Since my army service I've served \_\_\_\_\_ times in the reserve. (82) (i) I don't serve, I'm exempted (ii) I didn't, for I haven't yet been summonsed (iii) At least a month per year (iv) I'm still a soldier.

Table : Work places since army service : From year to year. Town of residence. Name and type of organisation. Rank. Job description (83-86).

PART C. THIS PART DEALS WITH YOUR PRESENT JOB AND OCCUPATION

(88-89) Today I work (i) as a seaman, and employed by \_\_\_\_\_ Shipping Co. in the capacity of (rank) \_\_\_\_\_ (ii) in shore job in merchant industry (iii) shore job, not related to merchant shipping. (iv) I'm still a soldier (v) I'm on long leave from present work (vi) I don't work, I'm looking for a job (vii) I don't work, and don't want to. (90) In your present job, what is your influence on the management of work to be done? (i) A lot of influence (ii) Considerable influence (iii) Small influence (iv) I have no influence (91) Do you think you should have more influence upon the management of work than you have today? (i) No (ii) Yes (92) What is the satisfaction you do have from your present job? (i) a lot (ii) considerable satisfaction (iii) small amount (iv) there is no satisfaction in my present work (93) What is the amount (level) of freedom you have in deciding what is the best way to fulfil your work? (i) absolute freedom (ii) considerable (iii) low level of freedom (iv) no freedom. (94) Do you think you should have more freedom than that you have now? (i) No (ii) yes (95) Are you a member of any trade union? (i) No (ii) Yes, I'm a member of \_\_\_\_\_ Union - this is a union of

\_\_\_\_\_ workers. (96) Do you agree with the activities of your Union? (i) always agree (ii) usually agree (iii) I agree to causes but not to the ways (iv) I usually oppose (v) I'm not a member of any Union.

In which of the following subjects should your union act in order to heighten the status of its members (i) immediate activity (ii) secondary activity (iii) Purification of qualities of its members (iv) building a well-defined professional ethics system (v) strengthening the union's position in public (vi) participation in policy decisions of the industry (vii) supervision of wages and work conditions.

(97) Are you satisfied with your present income? (i) very satisfied (ii) considerably (iii) not at all. (98) My daily work, for me is (i) not difficult at all, (ii) tiresome and difficult (iii) particularly difficult and tiresome (99) Are you satisfied with your work? (i) yes, very much (ii) considerably satisfied (iii) not particularly (iv) not at all.

What are your relationships with those you work with (i) peers (ii) superiors (100) (i) very warm and good relationships (ii) friendly relationships (iii) tensed and stressed relationships (iv) bad and unbearable relationships (101) Do you have any social relationships with people of the same profession/occupation as yours outside your organisation/place of work? (i) with many) (ii) with some (iii) No, with none

(102) In your opinion, is a person who works as a merchant marine officer, considered in public as having (i) a very honorable profession (ii) considerable profession (iii) dishonourable profession (iv) I have no opinion. (103) How much time do you want to remain working in your present employing organisation? (i) up to retirement (ii) 6-10 more years (iii) 3-5 more years (iv) up to 3 more years (v) 1 more year at the most (vi) I've no plans now

What, in your opinion, is the importance of the following factors (each of them) which comprise any person's work (i) very important (ii) considerable importance (iii) small importance (iv) I don't know. (v) a chance to help society (vi) chance to update knowledge and improve know-how (vii) chance for work advancement (viii) to work with things more than with people (ix) independence in doing my work (x) interest in work (xi) to work with people more than with things (xii) variety in work (xiii) wages (xiv) professional status (xv) comfortable work conditions (xvi) work satisfaction (xvii) nice relations among workers (xviii) social appreciation (xix) family appreciation of profession (xx) close friends' appreciation of profession (xxi) activity of my Union.

(103) When you left your previous work place, was your present 'place' preferred already? (i) it is my first place of work (ii) yes (iii) no, if 'no' I searched for the present job for some \_\_\_\_\_ months until I found it. (104) My family belong to the group of families (I and my spouse) whose monthly income (net) is (i) up to 1000 Sh. (ii) 1001-2000 Sh. (iii) 2001-3000 Sh. (iv) 3001-5000 Sh. (v) 5001-10,000 Sh. (vi) more than 10,000 Sh. (105) In my family we save monthly (from net income) (i) none (ii) up to 10% (iii) 11-20% (iv) 21% and more (106) From my monthly income we have some \_\_\_\_\_% debts.

PART D. THE FOLLOWING GROUP OF QUESTIONS DEALS WITH YOUR ATTITUDES TO SHIPPING AND YOUR OCCUPATION. PLEASE ANSWER ALL THE QUESTIONS (EVEN IF YOU ARE NOW A NON-ACTIVE SEAMAN)

(106) In the merchant marine navy I have sailed \_\_\_\_\_ years  
 (107) My seaman's book Number is \_\_\_\_\_  
 (108) My last certificate is to the rank of \_\_\_\_\_  
 (109) This certificate is from year 19\_\_\_\_. (110) In the Israeli merchant fleet (i) I've never sailed (ii) I've sailed, but not yet been given any

certificate of competency (iii) I've also sailed after my first certificate.

(110) In which Shipping Co. would you like now to sail (please answer whether you work in the company you choose or another, or not at all)

(i) I'd wish to sail with \_\_\_\_\_ (ii) I wouldn't want to sail in any shipping Co. - my reasons \_\_\_\_\_

(111)

Whether you sail now, or not, what is the degree of importance you attach to various components which define "a good shipping Co." (i) very important (ii) considerable importance (iii) null importance (iv) fair wages (v) shore leaves (vi) level of people on board (vii) living accommodations - comfortable (viii) type of cargo (vx) length of time (sailing) (x) level of automation (xi) attitude of company to its seamen (xii) relations among the crew (xiii) number of ports in voyage (xiv) time spent in foreign ports (xv) care taken of seaman's family while he is sailing (xvi) Company's attitude to its cadets (xvii) Ship's officers attitude to cadets (xviii) ship ratings' attitude to cadets (xix) proportion of foreigners on Company ships (xx) age of company's ships.

(112) What is the most important of all elements mentioned in the last question \_\_\_\_\_.

(113) If you were given to choose on board which ship would you prefer to sail (i) passengers (ii) containers (iii) general cargo (iv) tankers (v) tramp (vi) refrigeration (vii) bulk carriers (viii) fishing ship (xiv) other - please specify \_\_\_\_\_.

(114) On what line would you prefer to sail (i) short (up to 1 month at sea (ii) middle (2-6 months) (iii) long line (over half a year). (115) I think that work practice at sea is (i) very interesting (ii) interesting (iii) not interesting (iv) I don't have an opinion. (116) I think that on board, while in spare time (i) one usually has a lot to do (ii) very often boring

(iii) always boring (117) In my spare time on board the ship I prefer to (i) read books (ii) study for higher education (iii) paint (iv) play music on an instrument (v) write (story, letter) (vi) learn by correspondence courses (vii) social pause (viii) talk with someone in the department (vx) talk with someone of the crew (x) sleep (xi) get bored (xii) prepare for examination of certificate (xiii) listen to the radio, music, movie show, T.V. etc.

(118)

As you know, there are things which pull people to work at sea. Please indicate for each of the following, its influence towards duration of sea-work/service (i) very (ii) small influence (iii) none (iv) the opportunity to see the world (v) love of sea (vi) love of profession (vii) social atmosphere on board (viii) the opportunity for shipping occupation advancement (vx) type of work on board (x) sea income when compared to shore income (xi) seafarers' status, when compared to shore workers (xii) one remains at sea by habit or because of no other opportunity (xiii) seafarer's style of living when in foreign parts (xiv) personal problems ashore (xv) lack of proper opportunity to work ashore (xvi) Any other factor? \_\_\_\_\_

(119) If you sail in the merchant fleet, what was your last shipping company (i) Zim (ii) El-Yam (iii) Fruit Carrier (iv) another (specify) \_\_\_\_\_.

(120) Are you satisfied with the shore leaves you get or got (i) very much (ii) considerably (iii) not at all. (120) Is the handling in your personal matters, as well as with your family, by your shipping company (i) good and devoted (ii) good, but could be improved (iii) bad and insulting. (121) Did/does your family put pressure on you to stop sailing and start working ashore? (i) not at all (ii) some, but with no effect

(iii) a lot, but with no effect (iv) yes, and I therefore leave/shall leave sea work (122) When did you decide on the period you intend to remain at sea? (i) before nautical school (ii) while in nautical school (iii) after a voyage in nautical school (iv) prior and during army service (v) after the army service (vi) while being a cadet (vii) after I'd already been a seaman (viii) during the last 2 years (123) If you don't sail nowadays, when did you decide that sea-work is not for you - (As question 122). (124) If you don't sail now, do you think you'd ever return to or start sailing? (i) No, I don't think so (ii) yes, while on vacation and proper chances/opportunities (iii) yes, only for short periods/part time (iv) if I'd not found a job ashore I'd try to return to seawork (v) yes, within 1 year for full job. (125) Do you think the proportion of foreigners should be decreased? (i) yes (ii) no (iii) I have no idea.

(126) If you are not a sailor today, when did you stop sailing? (i) I never did sail (ii) I was only sailing in my army service (iii) over 10 years ago (iv) 5-9 years ago (v) less than 5 years ago (vi) less than 1 year ago (127) Although I have a job ashore now, I sail (i) I don't (ii) in my annual vacation at least once every 5 years (iii) during my annual vacation at least once every 2 years (iv) at least once a year (v) whenever possible, and even more than once a year (vi) I have no job now and, therefore, I sail (vii) I earn my living today as a regular seaman (128) When have you been a cadet? (i) I never was (ii) before my army service (iii) after army service. (129) I was a cadet in (name of shipping Co.) \_\_\_\_\_ between 19\_\_\_\_ - 19\_\_\_\_. (130) I was a cadet as (i) only one on a ship (ii) with a group of \_\_\_\_\_ cadets on board (131) My studying in the nautical school (i) I never studied in a nautical school (ii) helped me while being a cadet (iii) I don't

know if it helped me when a cadet (iv) It didn't help me when being a cadet.

When a cadet, up to your first certificate, did you receive all the necessary aid for which you asked for your training from all the following (i) yes (ii) no : (132) From the shipping company (ii) from officers on board ships I sailed (iii) from ratings aboard the ships I sailed, (iv) from all service bodies ashore (v) from my immediate supervisors (vi) from my fellow cadets.

Work conditions while a cadet, were (i) very good (ii) satisfactory (iii) very bad (iv) leaves (v) wage and pocket money (vi) rest. (133) Work aboard ship (has) immediate supervision (134) utility (135) accommodation (136) status on board the ship (136) social welfare. Which of the above mentioned (134-136) is the most important and therefore the factor most improvable? \_\_\_\_\_.

(137) Do you agree with Officers' Union activities (i) always agree (ii) usually agree with no reservations (iii) agree to ends but not to means (iv) usually disagree to ends and the means (v) I have no opinion (138) When you left your previous work place, had you had the present one already prepared? (i) yes (ii) no - If 'no' then, I had searched for a job for some \_\_\_\_\_ months. (139) If the authorities and organisations recognised the officer's studies as equivalent to a technical engineering degree would it bring to (i) the seaman would have served longer years at sea (ii) the seaman would have served as long as in the present situation (iii) the seaman would have served less at sea. Give reasons \_\_\_\_\_.



(140) What should change in the shipping industry in order to cause you to wish to serve for more years at sea, or in order that other quitting seamen shall return? \_\_\_\_\_.

(141) During my last voyage I served in the capacity of (i) permit (ii) certified rank \_\_\_\_\_. (142) Why have you quitted being an active seaman or, if you are still active, why did your friends avoid sailing or quitted? (i) true (ii) not so very true (iii) not true because (i) family is against sailing (ii) living conditions on board ship are bad (iii) work on board ship is much more difficult than ashore (iv) they/I quarrelled with superiors on board (v) could not advance in rank anymore (vi) the human element at sea is not 'my cup of tea' (vii) I was/they were not allowed to sail on ships/routes wanted (viii) leaving shore is too difficult (xiv) not allowed to sail in capacity of certificate (xv) work on board is too routine for me (xvi) work on board is not interesting enough (xvii) fed up with wandering (xviii) lack of knowledge to work on modern ships (xix) seaman's occupation has no esteem in shore society (xx) ashore, people are much more pleasant (xxi) work ashore is more interesting (xxii) found ashore a more 'rewarding' job (xxiii) ashore, satisfaction from work is higher than at sea (xxiv) life at sea is good for a limited period only (xxv) was afraid that after too long sea service would not be able to find work ashore.

PART E - IF YOU HAVE GRADUATED FROM A NAUTICAL SCHOOL, PLEASE ANSWER THIS SECTION IN DETAIL. IF NOT GO TO NEXT SECTION

(143) Have you seen in your nautical school teachers, an example of 'how should a seaman be'? (i) in all of them (ii) in most of them (iii) in few of them (iv) not even in one of them (144) Have the nautical school teachers influenced your decision not to work as a seafarer? (i) they have influenced very much (ii) hardly influenced me to work (iii) didn't influence at all (iv) caused some reflections whether I should or shouldn't

work (v) caused that I'd work only for a short period (vi) caused that I'd not start even (vii) I have no opinion in the matter. (145) Had your son wanted to learn in the same nautical school as you have, would you send him there? (i) no (ii) yes (146) Was the description given in your nautical school about work at sea (i) correct (ii) not very accurate (iii) not true at all (iv) I don't know. (147) Have your practical experiences from nautical school sea-voyage influenced your decision to work or quit work in the Israeli merchant marine industry? (i) it strengthened my will to work (ii) did not influence (iii) weakened my will to work as a merchant seafarer. (148) My studies (name of nautical school) \_\_\_\_\_ were finished in (year) 19\_\_\_\_. (149) Indicate whether during your studying in the nautical school (i) my attachment to the seafaring occupation was strengthened (ii) the attachment to the seafaring occupation was not much strengthened (iii) I've lost interest in seafaring. (150) Do you think that in the nautical school where you learned you'd be considered (i) a good pupil (ii) an average pupil (iii) less than average student. (151) Since I've graduated nautical school (i) I've obtained matriculation (ii) I've not obtained matriculation. If 'yes' (i) I've been given the documents from school (ii) The documents were obtained from another scholastic institute. The certificate was given to me in (year) 19\_\_\_\_. (152) Today, do you see your going to the nautical school as a wise stay? (i) yes, for the long run (ii) yes, only for the short run (iii) No, it's a mistake. Out of the following list, try to remember what were the reasons and causes that brought you to the nautical school? (i) very strong reasons (ii) a reason which influenced (iii) a secondary reason (iv) no affect at all.

(153) I wanted to learn an occupation connected to the sea. (154) I wanted to obtain a matriculation certificate (155) I wanted to live/learn in a boarding school (156) I wanted to learn an occupation which has

economic prospects (157) I wanted an instruction which would (ease)  
enable me to enter the (army) navy (158) I wanted to prepare myself for  
the merchant marine industry (159) I had heard that the level of studying  
was high (160) I wanted to learn 'machinery' in a boarding school  
(161) There was no other nautical school near my parents' home (161) I  
wanted to see the world (162) Other reasons \_\_\_\_\_.

(163) In order to improve nautical schools' activity and in order to  
attract the graduates to merchant marine for longer seafaring careers

(i) in what ways should learning conditions be improved? \_\_\_\_\_  
\_\_\_\_\_.

(164) In what ways should teaching conditions be improved \_\_\_\_\_  
\_\_\_\_\_.

(165) What should be done to pull more pupils, and better youths to school  
and merchant marine industry? \_\_\_\_\_  
\_\_\_\_\_.

(166) In what should we improve the instruction methods in the  
Institute \_\_\_\_\_.

PART F : THIS LAST PART OF THE QUESTIONNAIRE IS DIRECTED TO ACTIVE SEAMEN  
ONLY. IF YOU DON'T SAIL AT THIS TIME, YOU DON'T HAVE TO ANSWER THIS PART  
AND WE THANK YOU FOR YOUR EFFORTS AND CO-OPERATION FOR ANSWERING THE PREVIOUS  
PARTS

The reasons for which you wanted to work as a seafarer are (167) (i) very  
important (ii) important (iii) not important (iv) of no importance at  
all. (168) Interest in work (i) income conditions (ii) I thought I'd  
have occupational advancement (iii) I wanted to learn a profession  
(iv) I wanted to see the world. (169) Number of dwelling places changed  
while working as a merchant marine seafarer (please give the year)

(i) 19 \_\_\_\_\_ (ii) 19 \_\_\_\_\_ (iii) 19 \_\_\_\_\_

(170) Today in the present shipping company I sail with \_\_\_\_\_

(171) I started in the rank of \_\_\_\_\_ in 19 \_\_\_\_\_

(172) Today I sail in the rank of \_\_\_\_\_ since (year) 19 \_\_\_\_\_

(173) To the present shipping company I was directed by (i) labour administration offices (ii) veterans' branch (iii) a friend (iv) sea-officers' union (v) personally addressing the crew (vi) the company approached me. (174) What is your opinion of opportunities for your employment in your rank and job, in another Israeli shipping company?

(i) there are a lot of opportunities (ii) many opportunities exist (iii) few opportunities exist (iv) there's hardly any opportunities (v) none at all.

(175) What are your opinions about job prospects for you ashore?

(i) there are many opportunities (ii) many opportunities exist (iii) there are few opportunities (iv) hardly any (v) none at all.

(176) Have you done anything lately, actively to search for a job in another shipping company? (i) no (ii) yes. (177) Have you done anything lately, actively searching for a job ashore for yourself? (i) no (ii) yes.

(178) Today in the light of international and Israeli shipping economic situations, are you afraid of being made redundant? (i) very much afraid (ii) (yes) afraid (iii) hardly (iv) not at all. (179) Do you have any family plans of changes, within the next year (another child, marriage, etc.) (i) no (ii) yes (180) Does your employing shipping company care that its employees shall know 'what is going on'? (i) very much so (ii) yes, it cares (iii) not enough (iv) not at all.

(181) What are the measures and their extent, taken by your employing shipping company towards better work conditions? (i) company cares very much (ii) company cares to a high degree/level (iii) company hardly cares

(iv) company does not care (v) rest and living accommodation (vi) meals and fresh food (vii) proper light (viii) less noise (xiv) books, games and entertainment (xv) loans for flats etc. (xvi) safety at work (xvii) utility (clothes and cleaning) (xviii) taking care of your family, while you are at sea.

(182) Does the noise on ship disturb you? (i) very disturbing (ii) not so much (iii) I'm already used to it (iv) I hardly hear it (v) not at all. What is the importance of the following attributes connected to your work? (i) very important (to me) (ii) important (to me) (iii) not so important (iv) not important (to me) at all (v) high income (vi) independence in fulfilment of my job (vii) chances for professional advancement (viii) crew relationship and pleasant atmosphere.

(183) Does it happen that you are ordered/given conflicting orders from ship's command, concerning your job and tasks? (i) it happens very often (ii) it often happens (iii) it hardly happens (iv) not at all (v) I don't receive/give orders. (184) Do you think that the majority of seamen (ratings and officers as well) who sail with you want to continue sailing at sea? (i) they want it very much (ii) they want (iii) not so much (iv) they don't want to (185) Do you think that today's ratings are good professionals? (i) the majority are those who know and want to work (ii) the majority of them know but do not want to work (iii) the majority do not know, but want to work (iv) the majority neither know nor want to work. (186) Would you wish to change your present work (i) I'd like to very much (ii) I'd want to (iii) I'd oppose (iv) I do not want to - definitely (v) shore job in maritime industry (vi) work in another ship (vii) sail in another line (viii) work in another shipping company (187) Had you been given the opportunity, would you want to leave your sea work? (i) yes, very much (ii) I'd want (iii) I'd debate/hesitate (iv) I don't think I'd want

(v) I do not want (188) How many professional books have you read during the last year on shipping and seamanship subjects (i) 5 or more (ii) 2-4 books (iii) 1 book (iv) I don't read (189) Do you read regularly, seamanship, engineering newspapers/periodicals? (i) I never read professional periodicals (ii) I read these periodicals whenever I have the chance (iii) I read periodicals regularly (iv) I subscribe to this kind of publication.

(190) In your opinion, the main things to be done to pull seamen to continue for longer sea service periods (i) very important (ii) important (iii) small importance (iv) not important at all (v) raise the wages (vi) to give loans to seamen (vii) improve all work relationships (viii) to introduce more modern ships (xiv) to improve shore (manpower) dept. relations/attitudes towards the seafarer (xv) to improve dwelling conditions on board ships (xvi) to spread accurate information to seafarers (xvii) to improve safety conditions on board ships (xviii) that the 'company' and not an 'authority' (governmental/public) shall take care of the seaman and his family (xix) to 'cut the seaman in' management and profits (xx) that a fixed bonus shall be given on the basis of tenure and length of service, (xxi) to give the ship's command more authority and responsibility (191) Have you taken part in a professional seafarers' convention, or your department during the last year (i) No (ii) yes.

(192) Following some events that describe your relation with your superior (i) agree, very much (ii) agree (iii) oppose (iv) very much opposed (v) your superiors are friendly and easy with people (vi) your superiors are used to 'meet you half way' (vii) your superiors consult you when necessary (viii) your superiors transfer information about changes 'on time' (xiv) your superiors are used to criticise one's work (xv) your superiors are used to give proper explanations to seamen.

(193) What was your income in the last month? (yours without your spouse's) \_\_\_\_\_ shs.

We give you here several cases which require decision taking (use the following code) :

- 1) Do not want to decide
- 2) Want to be in the picture
- 3) Want to be asked
- 4) Want to be one of the decision takers
- 5) Want to decide myself

(194) How to organise my work (195) How to improve the conditions of my subordinates (196) How to divide the tasks which should be done, and when to do them (197) Evaluate the quality and level of work done under my responsibility.

(198) Before I started working as a seafarer (i) I worked \_\_\_\_\_ years in the profession of (ii) \_\_\_\_\_ as (i) employee (ii) independent worker/owner. While these years as a seafarer I tried \_\_\_\_\_ times to quit seawork and find my place ashore. On the last occasion when searching for work ashore, this break was of \_\_\_\_\_ months duration.

During my last try to find my place ashore, I worked as (i) employee (ii) Independent (iii) co-operative member (iv) studied without working (v) didn't find a job (vi) in the occupation of \_\_\_\_\_ and the position of \_\_\_\_\_.

We thank you for your co-operation and patience.

Original Questionnaire in Hebrew

שאלון מחקר  
מילני 1980

השאלה הראשונה:

האם אתם מסכימים להשתתף במחקר זה? (כן/לא)

השאלה השנייה: האם אתם מסכימים להשתתף במחקר זה? (כן/לא)  
האם אתם מסכימים להשתתף במחקר זה? (כן/לא)  
האם אתם מסכימים להשתתף במחקר זה? (כן/לא)

- 1) כן (כן/לא)
- 2) לא - הסיבה (הסיבה/הסיבה, הסיבה)
- 3) אחרת
- 4) הסיבה/הסיבה
- 5) הסיבה/הסיבה
- 6) הסיבה/הסיבה

האם אתם מסכימים להשתתף במחקר זה? (כן/לא)

השאלה השלישית: האם אתם מסכימים להשתתף במחקר זה? (כן/לא)

האם אתם מסכימים להשתתף במחקר זה? (כן/לא)

השאלה הרביעית: האם אתם מסכימים להשתתף במחקר זה? (כן/לא)  
האם אתם מסכימים להשתתף במחקר זה? (כן/לא)  
האם אתם מסכימים להשתתף במחקר זה? (כן/לא)

השאלה החמישית: האם אתם מסכימים להשתתף במחקר זה? (כן/לא)  
האם אתם מסכימים להשתתף במחקר זה? (כן/לא)  
האם אתם מסכימים להשתתף במחקר זה? (כן/לא)

השאלה הששית: האם אתם מסכימים להשתתף במחקר זה? (כן/לא)  
האם אתם מסכימים להשתתף במחקר זה? (כן/לא)  
האם אתם מסכימים להשתתף במחקר זה? (כן/לא)

השאלה השביעית: האם אתם מסכימים להשתתף במחקר זה? (כן/לא)  
האם אתם מסכימים להשתתף במחקר זה? (כן/לא)  
האם אתם מסכימים להשתתף במחקר זה? (כן/לא)

השאלה השמינית:

השאלה התשיעית:



חלק א' - שאלות כלליות.

13(15) האם מישהו במשפחתך היה או הינו ימאי ?

(1) לא  
(2) כן. אם "כן", מהו יחס הקירבה ביניכם ?

א. הוא אבא שלי  
ב. הוא משפחה/שירה בדרגה אבא שלי

14(16) מבנה ליסודי במקצוע הספנות הייתה :

(1) במחלקה סיסטון  
(2) במחלקה מכונות  
(3) במחלקה אלוט  
(4) במחלקה קירור  
(5) במחלקה חשמל  
(6) במחלקה הדיג  
(7) במחלקה חשמל  
(8) אחרת :

15. מצב סיסטמתי כיום הוא ( הקף את התשובה הנכונה בעיגול, וציין גם את השנה במקום הסתאים לך ) :

(1) נשוי, מאז שנה 1977

(2) רווק, גרוש, אלמן, מאז שנה 19    

16(19) משחי נולדה בשנה 1948

(20) בארץ ישראל

(21) ועלתה ארצה בשנה 19    

17(22) כמה ילדים יש לך (ציין עיגול סביב המילה המסיימת את ה"מין" - בן או בת - וכן ציין את שנה הלידה של כל אחד (ת) מחם ) ?

(23) 1. בת נולדה ב- 1977

(24) 2. בת נולדה ב- 1974

(25) 3. בן במ נולדה ב- 19    

(26) 4. בן במ נולדה ב- 19    

(27) 5. בן במ נולדה ב- 19    

(28) 6. בן במ נולדה ב- 19    

(29) 7. בן במ נולדה ב- 19    

(30) 8. בן במ נולדה ב- 19    

(31) 9. בן במ נולדה ב- 19    

(32) 10. בן במ נולדה ב- 19    

(33) 11. בן במ נולדה ב- 19    

(34) 12. בן במ נולדה ב- 19    

(1) 1. נולדתי בשנה 1975

(2) 2. ארץ הולדתי היא ישראל

(3) 3. עליתי ארצה בשנה 19    

(4) 4. אבי נולד בארץ ישראל

(5) 5. אמי נולדה בארץ ישראל

6. כשהחלתי ליסודי החיכונים

(6) 6. אבי עבד במקצוע של אגד

(7) 7. אמי עבדה במקצוע של אגד

7. כיום אבי עובד במקצוע של :

(8) אגד

כיום אמי עובדת במקצוע של :

(9) אגד

(10) 8. השכלתי של אבי היא :

(1) יסודית או פחות

(2) חיכונים חלקית (עיונית/מקצועית)

(3) חיכונים מלאה (עיונית/מקצועית)

(4) מקצועית (אחר-חיכון)

(5) על - חיכונים גבוהה (אוניברסיטה, מכניון)

אקדמיה וכדומה (

6) אחרת :

(11) 9. השכלתי של אמי היא :

(1) יסודית או פחות

(2) חיכונים חלקית (עיונית/מקצועית)

(3) חיכונים מלאה (עיונית/מקצועית)

(4) מקצועית (אחר-חיכון)

(5) על - חיכונים גבוהה (אוניברסיטה, מכניון)

אקדמיה וכדומה (

6) אחרת :

(12) 10. מספר אחיותי היה 2

(13) 11. במשפחת הורי, אני הוא :

(1) הבן הבכור

(2) הבן האמצעי

(3) X בן הזיקונים

(14) 12. כשהחלתי ללמוד את מקצוע היספנות :

(1) שני הורי היו בחיים, וחיו ביחד.

(2) שני הורי היו בחיים, וחיו בנפרד זה מזה.

(3) X אחד מהורי כלבד היה בחיים באותה תקופה.

(4) שני הורי כבר לא היו בחיים באותה תקופה.

25(48). את לימודי היסודות התחלתי

במסגרת של :

(1) ב"ס ימ"י. איזה?

(2) ב"ס צ"י.

(3) אחר: איזה ?

26(49). אני הייתי שולח את ילדי לבי"ס

ימ"י, אילו רצו הם בכך !

(1) לא הייתי שולח לשם

(2) כן הייתי שולח לשם

נמק חסובמן בבקשה;

27(50). כיחם לשליחת ילדי לבי"ס ימ"י,

אשחי -

(1) היה מסכימה עם ההחלטה

(2) חיטה מתנגדת להסכים לכך.

28(51). לרעמי, כדי להיות ימאי, צריך -

(1) להתחיל את לימודי המקצוע

בבי"ס ימ"י

(2) להתחיל ללמוד רק אחרי גמר

השירות הצבאי

(3) לא חשוב מתי מתחילים בכך.

29. אני מעריך שבמשך חמש השנים

הקרובות, ישנם - (סמן X במקום

המתאים ובמשבצת המתאימה לכל אחת

מן האפשרויות הבאות)

	סיכויים רבים	סיכויים מעטים	אין סיכויים
1. שאחליף את משל - ידי	X		
2. שאחליף את מקום עבודתי	X		
3. שאחליף את מקום מגורי			X
4. שאחזק בדינתי המקצועית			X
5. שאעבור לתפקיד חוץ בחברה	X		

30(57). לפי מיטב ידיעתי, שוק העבודה

במקום מגורי בארץ :

(1) משווע לכה אדם בעל כישורים

כשלי.

(2) מחפש כה אדם בעל כישורים

כשלי.

(3) לאחד כמנוי, אפשר למצוא

עבודה

(4) לאחד כמנוי, קשה אך אפשר

למצוא עבודה

(5) כאשר אין כיכוי למצוא

עבודה, כשיש כישורים כשלי.

18(35). כיום אשחי היא :

(1) אינני נשוי

(2) עקרה ביה

(3) עובדת לא מקצועית

(4) עובדת מקצועית

(5) עובדת אקדמית

(6) לא עובדת כלל

19(36). אשחי עובדת :

(1) עובדת לא עבודה

(2) עבודה, במסדה חלקית

(3) עבודה, במסדה מלאה

(4) עבודה, כלמלה מסדה

מלאה אחת, אך במקום

עבודה אחר

(5) עבודה, כלמלה מסדה

אחת, אך ביוהר מסקום

עבודה אחר.

20(37). אני מרויה בחדש' סכום כסף -

(1) יותר מאשר אשחי

(2) כמו אשחי

(3) מחוץ מאשר אשחי

(4) אשחי איננה מרויחה

(5) אינני נשוי כלל

21(38). הדירה בה אני מתגורר (סמן

עיגול במקום המתאים) :

39) א. בבעלות הורי. ב. בבעלותי.

ג. בשכירות.

40) בדירה הזו יש 3 חדרים,

והיא מתרחקת על כ- 93 מ"ר.

22(41). בדירה בה אני מתגורר ;

(1) יש שלפון

(2) אין שלפון

23(42). (מקח את הכיוון) יש לי

מכונית.

24(43). אשחי סיימה ליכודיה -

(1) בבי"ס עמסי או מחוץ

(2) חלק מלימודי החיכוך

(3) חיכוך (עיוני/משפטי)

מלא.

(4) השכלה על - חיכונית

מקצועית.

במקצוע : חלל

סוג המוסד : חלל

וקיבלה תואר/תעודה

בשנת 1977.





- (91) 3. האם אתה סבור שצריך שחיה לך יותר השקעה על מהלך וניהול העבודה מאשר יש לך כיום ? ☐
- 1) לא ☒ (1)  
2) כן ☐ (2)
- (92) 4. מה סירה הסיכוי כי לך מעבודתך -הפקיד העכשווי ? ☐
- 1) סיכוי רב ☒ (1)  
2) סיכוי נמוך ☐ (2)  
3) סירה מועטה של סיכוי ☐ (3)  
4) אין כל סיכוי מעבודתי כיום ☐ (4)
- (93) 5. מה סירה החופש שניתנה לך בקביעת הדרך הטובה ביותר לביצוע עבודתך ? ☐
- 1) חופש מוחלט ☒ (1)  
2) סירה ניכרת של חופש ☐ (2)  
3) סירה מועטה של חופש ☐ (3)  
4) סירה אפסית של חופש ☐ (4)
- (102) 10. האם אתה כרוצה מהסגר שאתה סרויח כיום מעבודתך ? ☐
- 1) כרוצה מאוד ☐ (1)  
2) די מרוצה ☒ (2)  
3) לא מרוצה כלל ☐ (3)
- (103) 11. עבודתי היום-יומית עכורי היא- ☐
- 1) לא קשה כלל ☐ (1)  
2) די קשה ומעייפת ☒ (2)  
3) קשה במיוחד ומאד מעייפת ☐ (3)
- (104) 12. האם אתה שבע - רצון מעבודתך ? ☐
- 1) כן, מאד ☒ (1)  
2) די שבע רצון ☐ (2)  
3) לא במיוחד ☐ (3)  
4) לא שבע רצון כלל ☐ (4)

- (105) 13. מהם יחסים עם חסובים אותך כעבודה (סמן X בשני מקומות המתאימים לך לחיבור יחסים) ? ☐

עם חברים שוים לי	מפגשים מפגשים
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

- א. יחסים טובים מאד, וחמים  
ב. יחסים של ידידות  
ג. יחסים הוגנים וקורקטיים  
ד. יחסים מחומים ולא שקטים  
ה. יחסים גרועים ובלתי נסבלים

- (106) ☐
- (107) 14. האם יש לך קשרים חברתיים עם בעלי מקצוע כשלך מחוץ למקום העבודה ? ☐
- 1) עם רבים ☒ (1)  
2) עם אחדים ☐ (2)  
3) לא, אף לא עם אחד מהם ☐ (3)

- (108) 15. לפי דעתך, האם אתה מעובד בחור קצין ימי, נחשב בעיני הציבור כבעל כספון - ☐

- 1) מכוון מאד ☐ (1)  
2) די מכוון ☒ (2)  
3) לא מכוון ☐ (3)  
4) אין לי כל דעה בנידון ☐ (4)

- (109) 16. כמה זמן בס"ה אתה רוצה להשאר ולעבוד במקום עבודתך הנוכחי ? ☐

- 1) עד גיל מרישה לגיטלואח  
2 6 עד 10 שנים לכל היותר  
3 3 עד 5 שנים לכל היותר  
4 לכל היותר עד 3 שנים  
5 עוד שנה בלבד לכל היותר  
6 אין לי כל חכניה כרויה כרגע ☒ (6)

- (94) 6. האם אתה סבור שצריך שחיה לך רבה יותר של חופש מאשר יש לך כזה ? ☐
- 1) לא ☒ (1)  
2) כן ☐ (2)
- (95) 7. האם אתה חבר באיגוד/ארגון מקצועי ? ☐
- 1) לא ☐ (1)  
2) כן, אני חבר ב- איגוד קציני ימי ☒ (2)  
זהו איגוד מקצועי של קציני ימי
- (96) 8. האם אתה מסכים עם הפעולות אשר מתבצעות על ידי האיגוד המקצועי שלך ? ☐
- 1) חמיר מסכים ☐ (1)  
2) בדרך כלל מסכים ☒ (2)  
3) אני מסכים למטרות אך לא לדרכי-הפעולה ☐ (3)  
4) אני בדרך כלל מתנגד ☐ (4)  
5) אינני חבר בשום איגוד מקצועי ☐ (5)

9. באילו מהנושאים הבאים, ובאיזה דרך חייב האיגוד המקצועי שלי לפעול כדי להעלות את מרנו של איש המקצוע אצלו אתה משתייך 'סמן X בכניסות המתאימות לכל אחת מהאפשרויות הבאות

פעולה פנימית	פעולה חיצונית
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>

- (97) א. סיועור בידותי של בעל המקצוע ☐
- (98) ב. יצירה הערכה של אחיקה מוגדרת היטב ☐
- (99) ג. חיזוק עמדתו של האירגון באיגוד ☐
- (100) ד. השתתפות בכבישת מדיניות בענין ☐
- (101) ה. פיקוח על חנאי שבו וחנאי עבודה ☐

17. מהי לדעתך חשיבותם של כל אחד מהגורמים הבאים, המרכיבים את עבודתו של האדם ( נא סמן X במקום המתאים לכך לדעתך, לכל אחד מהמרכיבים הבאים ).

חשיבות רבה	חשיבות מסוימת	חשיבות מבוטלת	אינני יודע
(110)		X	
(111)		X	
(112)		X	
(113)			X
(114)			X
(115)			X
(116)			X
(117)			X
(118)			X
(119)		X	
(120)		X	
(121)			X
(122)			X
(123)		X	
(124)		X	
(125)			X
(126)		X	

18.(127) האם כשעזבת את מקום עבודתך הקודם לנוכחי, היה מקום העבודה והתפקיד העכשווי שלך כבר "כוכן" עבורך ?

- (1) ☒ זהו מקום עבודתי הראשון  
(2) כן  
(3) לא, אם "לא", - חתמתי עבודה כ- \_\_\_\_\_ חתמים עד סממתי את המקום הנוכחי.

19.(128) משתחתי מסתייגת לעבודה הבשלת (רק אני ובה-זוגי), שהכנסותיהן נטו לחודש \_\_\_\_\_

- (1) עד 1000 ל"י (עד אלה לירות)  
(2) בין 1001 ל"י ועד 2000 ל"י  
(3) בין 2001 ל"י ועד 3000 ל"י  
(4) בין 3001 ל"י ועד 5000 ל"י  
(5) ☒ בין 5001 ל"י ועד 10,000 ל"י  
(6) יותר מאשר 10,001 ל"י נטו לחודש

20.(129) במשטחתי או כצליחים לחסוך מהסכר נטו לחודש \_\_\_\_\_

- (1) ☒ אינני מצליחים לחסוך כלום  
(2) או מצליחים לחסוך עד כ-10% מסכרנו  
(3) או מצליחים לחסוך בין 11% ועד 20% מסכרנו  
(4) או מצליחים לחסוך מעל 21% מסכרנו החדשי

21.(130) סחף שכרנו החדשי יש לנו כ- \_\_\_\_\_ חובות.

(156) 7. מהוא, מבין הגורמים המוזכרים בשאלה 7, שכרגע סיימת לסלוא, המרכיב החשוב ביותר לדעתך (ציין את מספרו - בין 1 ל-18) ?

(157) 8. אילו חיים יכול לבחור, בין אם אתה כיום יפאי ובין אם לאן  
א. על איזה סוג אניה היית מעדיף לעבוד ?

(1) נוסעים (5) טרם  
(2) מכולות (6) קירור  
(3) משא כללי (7) צובר  
(4) פחיות (8) דיג  
(9) אחרת, ציין איזה סוג

(158) 9. באיזה קו היית מעדיף להפליג ?  
(1) קו עזר (עד חדשים בים)  
(2) קו בינוני (בין 2-6 חדשים)  
(3) קו ארוך (מעל לחצי שנה)

(159) 9. לדעתך, העבודת המעשים בים :  
(1) מעניינת מאוד  
(2) די מעניינת  
(3) לא מעניינת  
(4) אין לי כל עמדה

(160) 10. לדעתך, בשעות חפנאי שיש באניה-  
(1) לרוב יש מה לעשות  
(2) לעולם קרובות משעמם  
(3) בדרך כלל משעמם

(161) 11. בשעות חפנאי שיש באניה, אני הייתי מעדיף (פותר לך למסן א ליותר מאפשרות אתה מבין הבאות) :

(1) לקרוא ספרים  
(2) ללמוד לחואר אקדמי  
(3) לצייר  
(4) לנגן  
(5) לכתוב (סיפור, מכתב)  
(6) ללמוד בקורס בהתכתבות  
(7) לשחק שחמט חברה  
(8) לשוחח עם חברים במחלקה  
(9) לשוחח עם סיטחו מהצוות  
(10) לישון - לנוח  
(11) להשתעמם  
(12) להחכונו לבחינת הסמכה לדרגת הבאה  
(13) להאזין לרדיו, שטיפון, או לראות טרם טלביזיה

חלק ד' - קבוצת שאלות זו, עוסקת ביחסך למקצוע ולענף הספנות. ענה על כל השאלות בפרק זה, אפילו אינך כיום יפאי, ואפילו מעולם לא הפלגת כיסאי בצי הסוחר כלל.

(131) 1. בצי הסוחר הפלגתי 8 שנים.  
(132) 2. מספר פנקס הימאי שלי הוא :

16919 1

(133) 3. הסמכתי האחרונה היא לדרגת :  
חובל ראש

(134) 4. הסמכתי אחרונה זו, היא משנה 1975.

(135) 5. בצי הסוחר הישראלי

(1) לא הפלגתי כלל

(2) הפלגתי, אך לא קיבלתי הסמכה  
(3) הפלגתי גם אחרי ההסמכה הראשונה

(136) 6. באיזה חברה ספנות היית רוצה כיום להפליג (ענה על השאלה בין אם אתה מפליג בחברה זו, או אחרת ספנות, ובין אם אינך מפליג כיום כלל) ?

(1) הייתי רוצה להפליג בחברה  
(2) לא הייתי רוצה להפליג באף חברה  
ספנות כלל וניסוקי לכך :

7. בין אם אתה מפליג כעת או לא, מהי דרגת החשיבות שאתה מייחס למרכיבים השונים אשר מאפיינים את חברה הספנות "הטובה" בעיניך (ציין א לכל אחד מהמאפיינים הבאים במקום המתאים לכך לפי דעתך) ?

חשיבות רבה	חשיבות מסויימת	חשיבות מבוטלת	
(138)	X		(1) חנאי שכר חובנים
(139)	X		(2) חומשות חוף
(140)	X		(3) רמת האנשים באניה
(141)	X		(4) חנאי עבורים נוחים באניה
(142)	X		(5) סוג המטען באניות
(143)	X		(6) אורך קווי ההפלגה
(144)	X		(7) רמת האוטומציה באניה
(145)	X		(8) יחס החברה לימאיה
(146)	X		(9) יחסים בין אנשי הצוות
(147)	X		(10) מספר הנמלים בכל הפלגה
(148)	X		(11) זמן השחייה בנמלים זרים
(149)	X		(12) טיפול במטעח הימאי בהעדרו
(150)	X		(13) יחס החברה לצועריה
(151)	X		(14) יחס קציני האניה לצוערים
(152)	X		(15) יחס דירובי האניה לצוערים
(153)	X		(16) שיעור הזרים העובדים בחברה
(154)	X		(17) סוג הקו ויעדי ההפלגה
(155)	X		(18) גיל האניות שברשות החברה

12. כידוע לך ישנם נורמים שונים אשר מוכחים בני אדם לעבוד בים. לפניך מספר גורמים כאלה; ציין לבני כל אחד מהם מה מידת השפעתו על מסך השירות בים של הימאי (ענה על שאלה זו אפילו אם אינך ימאי כיום, או אפילו מעולם לא הפלגה)

הרבה	כעס	בכלל לא	
(162)	X		1) האפשרות לראות את העולם
(163)	X		2) אהבת הים
(164)	X		3) אהבת העבודה
(165)	X		4) יחסי החברה והאווירה באניה
(166)		X	5) אפשרויות הקידום במסגרת העבודה
(167)		X	6) אופי העבודה וסוג העבודה על האניה
(168)		X	7) הכנסה כספית בים לעומת ההכנסה בחוף
(169)	X		8) הכבוד וההערכה של ימאי לעומת זה של עובד-חוף
(170)	X		9) נשאות בים רק מחוץ הרגל או חוסר ברירה
(171)	X		10) צורת חיי הימאי כנאו לנסעים זרים
(172)		X	11) בעיות אישיות של הימאי ביבשה
(173)	X		12) חוסר אפשרות סחאית לעבוד ביבשה

(174) נורם נוסף, איזה?

13(175). אם אתה מסליג בצי הסוחר, באיזה חברה הפלגה בהפליגה האחרונה?

- 1) ציס X  
2) אל - ים  
3) חברה ימית להובלת מרי  
4) אחרת, איזה?

14(176). אם אתה מסליג/או ימאי, האם אתה מרוצה מהתנאים החברתיים שאינם מסבל/יכולת סחאית?

- 1) מרוצה מאד X  
2) די מרוצה  
3) לא מרוצה כלל

15(177). האם היספול ביוניוניו בחוף, וכן גם ביוניוניו משפחתך, עליו היכרה בה הפלגה בהפליגה האחרונה? הן כן הן לא?

- 1) כן וכסור  
2) די טוב, אך יש הרבה מה לשפר X  
3) גרוע וסובב

16(178). האם משפחתך או קרוביך לחצו/לוחצים עליך שהחלל להפליג ועבוד בחוף?

- 1) בכלל לא  
2) מעט אך ללא השפעה X  
3) הרבה מאד, אך ללא השפעה  
4) כן, ולכן אני עוזב/אעזוב את העבודה בים

17(179). מתי החלפת על השופת הישארותך בים, אותה ציינה בשאלות קודמות?

- 1) עוד לפני כניסתי לבי"ס ימי  
2) חוף כדי ליסודי בבי"ס ימי  
3) לאחר הפלגה במסגרת ביה"ס הימי  
4) לפני וחוף כדי שירותי בצבא  
5) לאחר שחרורי מסירות בצבא X  
6) בזמן היותי צוער על אניה  
7) לאחר עבודתי זמן-מה בים  
8) בכסר השנתיים האחרונות

18(180). אם אינך כיום עובד כימאי, מתי ובאיזה שלב או חקופה החלפת שהעבוד בים, איננה בשבילך?

- 1) עוד לפני כניסתי לבי"ס ימי  
2) חוף כדי ליסודי בבית הספר  
3) לאחר הפלגה במסגרת ביה"ס הימי  
4) לפני וחוף כדי שירותי בצבא  
5) לאחר שחרורי מסירות בצבא  
6) בזמן היותי צוער על האניה  
7) לאחר עבודתי זמן-מה בים  
8) בכסר השנתיים האחרונות

19(181). אם כיום אינך עובד כימאי, האם אתה חושב שאי-פעם תחזור או תחיל לעבוד כימאי?

- 1) לא, אינני סבור שאי-פעם אחזור  
2) או תחיל לעבוד כימאי בים  
3) כן, בחושים ובתוכניות נוחות  
4) כן, אך ירק לעבודה זכנית/חלקית  
5) אם לא זכא פעם עבודה בחוף  
אנסה להסתדר בעבודה כימאי  
6) כן, לעבודה שלא חור הקנה הבא

20(182). האם לדעתך צריך להפחית את מספר הימאים הזרים בבי-הסוחר הישראלי?

- 1) כן X  
2) לא  
3) איני לי כל דעה בנושא



~~SECRET~~

חלק ה' - אם הנך בוגר של בית ספר יסי, נא ענה על כל השאלות בחלק זה של השאלון, במירב המירוט האפשרי. אם אינך בוגר ב"ס יסי, וחלק זה של השאלון אינו נוגע לך, עבוד לחלק הבא, האחרון, של השאלון בעמוד 12.

(234) 1. האם ראיח במורי ביה"ס היסי בו למדת, דוגמא אישית ל- "אין צריך להיות ימאי" ?

- (1) ככולס  
(2) בחלקס הגדול  
(3) במיעוטס  
(4) אפילו לא באחד מהס

(235) 2. האם מורי ביה"ס היסי, שכו למדת, השפיעו על החלטתך לעבוד, או שלא לעבוד בצי - הסוחר ?

- (1) השפיעו רבוה שאעבוד  
(2) כמעט שלא השפיעו שאעבוד  
(3) כלל לא השפיעו שאעבוד  
(4) גרמו להרחורים אצלי, אם בכלל לעבוד בצי - הסוחר  
(5) גרמו לכך שאעבוד רק למשך תקופת זמן קצרה  
(6) גרמו לכך שאסילו לא אתחיל לעבוד בצי - הסוחר  
(7) אין לי כל דעה בנידון

(236) 3. אילו היה בינך רוצה למד באותו ב"ס יסי בו אתח למדת, האם היית שולח אותו לשם ?

- (1) לא  
(2) כן

(237) 4. האם החיבור שקיבלח בביה"ס היסי בו למדת, על העבודה בים, היה לפי דעתך ;

- (1) נכון  
(2) סחות או יותר נכון  
(3) בכלל לא נכון  
(4) אינני יודע

(238) 5. האם הנסיון חסעשי במסגרת ההפלגות שהפלגח בביה"ס היסי, בו למדת, השפיע על החלטתך לעבוד או שלא לעבוד במסגרת צי - הסוחר הישראלי ?

- (1) הגביר אח רצוני לעבוד  
(2) לא השפיע על רצוני כלל  
(3) החליט אח רצוני מלעבוד כימאי בצי - הסוחר .

(211) 34. מה היה צריך להסתנות בענף הסטנות כדי שחרצה להכשיר לעבוד כימאי הרבה שנים, או כדי שימאים שנשדו, יחזרו לעבודה בים ?

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(212) 35. בהפלגתי האחרונה בים, עבדתי

(1) בדרגת היתר ל- (213)

(2) בדרגת הסמכה של מג' א' 1971

36. לפה ירדה לחוף וחללה מלחיות

ימאי פעיל, או למה לא החללה להפליג כ"ימאי פעיל" כלל (ציין X לכל אחד מהסמסטים הבאים, בחתום לדעתך) ?

נכון	לא כ"כ נכון	לא נכון	
X			(214) 1. כי הסמחה היא/ היחה נגד הפלגותי
	✓		(215) 2. חנאי מבורים על האניה - גרועים
X			(216) 3. עבודה בים קשה עבדתי יותר מאשר בחוף
	✓		(217) 4. כי הסתכסכתי עם המפוניס עלי באניה
	X		(218) 5. כי לא יכולתי יותר להחקס בדרגות
X			(219) 6. כי החומר האנושי בים אינו לרוחי
	X		(220) 7. כי לא אימשרו לי לעלות על אניות וקוים בהם רצייתי
	X		(221) 8. קשה עלי במיוחד העדרות מסוככה מהחוף
X			(222) 9. כי לא אימשרו לי להפליג בדרגה שאליה הוסמכתי
	X		(223) 10. כי העבודה בים שגרהית מדי עבדתי
X			(224) 11. כי העבודה על האניה איננה מסטיק מעניינה עבדתי
	X		(225) 12. כי נמאס לי כבר מחיי נדורים
X			(226) 13. כי חסר לי הידע הדרוש כדי להפעל ולעבוד באניה חדישה
	✓		(227) 14. כי מקצוע הימאי איננו די מכובד בעיני החברה בחוף
X			(228) 15. כי בחוף, האנשים הרבה יותר נעים מס אשר בים
	✓		(229) 16. כי העבודה בחוף הרבה יותר מעניינה מאשר על הים
		✓	(230) 17. כי מצאתי בחוף עבודה יותר "מכניסה" ומסחלפת מאשר בים
X			(231) 18. בחוף, הסיסוק מהעבודה רב יותר מאשר סן העבודה בים
	✓		(232) 19. כי החיים בים, לפי דעתי, טובים רק לחקופת זמן מוגבלת
X			(233) 20. כי שחדתי שלאחר הרבה זמן בים כבר לא אצליח להסתדר בחוף

37. אם הנך ימאי פעיל, חוזר לשאלה 36, ונסה לענות על כל מרכיביה, כאילו הינך סרמיין מדוע אנשים אינם מחילים או אינם ממשיכים לעבוד כימאים בצי הסוחר, ונסה לענות במקומס.

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26. לחלן מספר מקרים בהם צריך לקבל החלטות. השתמש בקוד הרשום כאן, (לכל הערכה חן את המערכת המתאימה לפי הקוד)

- קוד :
- (1) לא רוצה להתחיל
  - (2) רוצה לחיות במסוגל
  - (3) רוצה שישאלו אותי
  - (4) רוצה לחיות אחד הממליצים
  - (5) רוצה להתחיל לבדי

- (325) ☐ (1) כיצד לארגן את עבודתי
- (326) ☐ (2) כיצד לשפר את מנאי עבודתם של הממונים לי
- (327) ☐ (3) כיצד לחלק את העבודות שיש לבצע וסמי לעשותן
- (328) ☐ (4) קביעת סוג ורמת העבודה שבאחריותי

27. לפני שהתחלתי לעבוד כימאי :

- (329) ☐ עבדתי 1.5 שנים במקצוע
- (330) ☐ של הנדסה כימית

- (331) ☐ בחור : (1) שירי (2) דניאל

28. חוץ כדי שגום עבודתי כימאי, ניסיתי 0 פעמים לעזוב את חיי ולמצוא את מקומי בעבודה אחרת.

29. בפעם האחרונה בה ניסיתי את מזלי באופן, נמשכה המסעה זו, שהיוותי ימאי דגים.

30. בנסיגתי האחרון להתחדר באופן, עבדתי באופן שיר

- (1) שיר
- (2) דניאל
- (3) חבר קואופרטיב
- (4) למדי ולע עבדתי
- (5) לא התחלתי למצוא עבודה

(335) ☐ והפעמתי במקצוע של :

(336) ☐ בתפקיד של :

הנני מודים לך על השומה לכן ועל המאמץ והמבלגום שהשקעת בעזרתך לנו, ע"י פתח המשובים לשאלון מסור זה.

באורה

יום המשיך

22. מהם לדעתך הדברים העקריים שיש לעשותם כדי שימאים ירצו להתמיד יותר ולהפליג זמן יותר ממועד בים (ציון X לכל אחת מן המעשרות הבאות בהתאם)

חשוב ביותר	חשוב	חשוב במידה מסוימת	לא חשוב כלל
(304) <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(305) <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(306) <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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(316) 23. האם השתתפת בכנס מקצועי של ימאים, או של אנשי מחלקת באופן, בשנה האחרונה ?

- (1) X לא
- (2) כן

24. לחלן מספר מקרים המאפיינים את הקשר בינך ובינו הממונים עליך - (ציון X במקום המתאים לך ליד כל אחד מן המאפיינים הבאים) -

מסכים מאוד	מסכים	מסכים מעט	מסכים מעט מאוד
(317) <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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(322) <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(323) <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(324) 25. מה היתה הכנסתך ברוטו (בלירות שלמות) בחודש שעבר (רק שלר, לא כולל של בן/בת - זוגך) ?

ל"י ברוטו לחודש 3400